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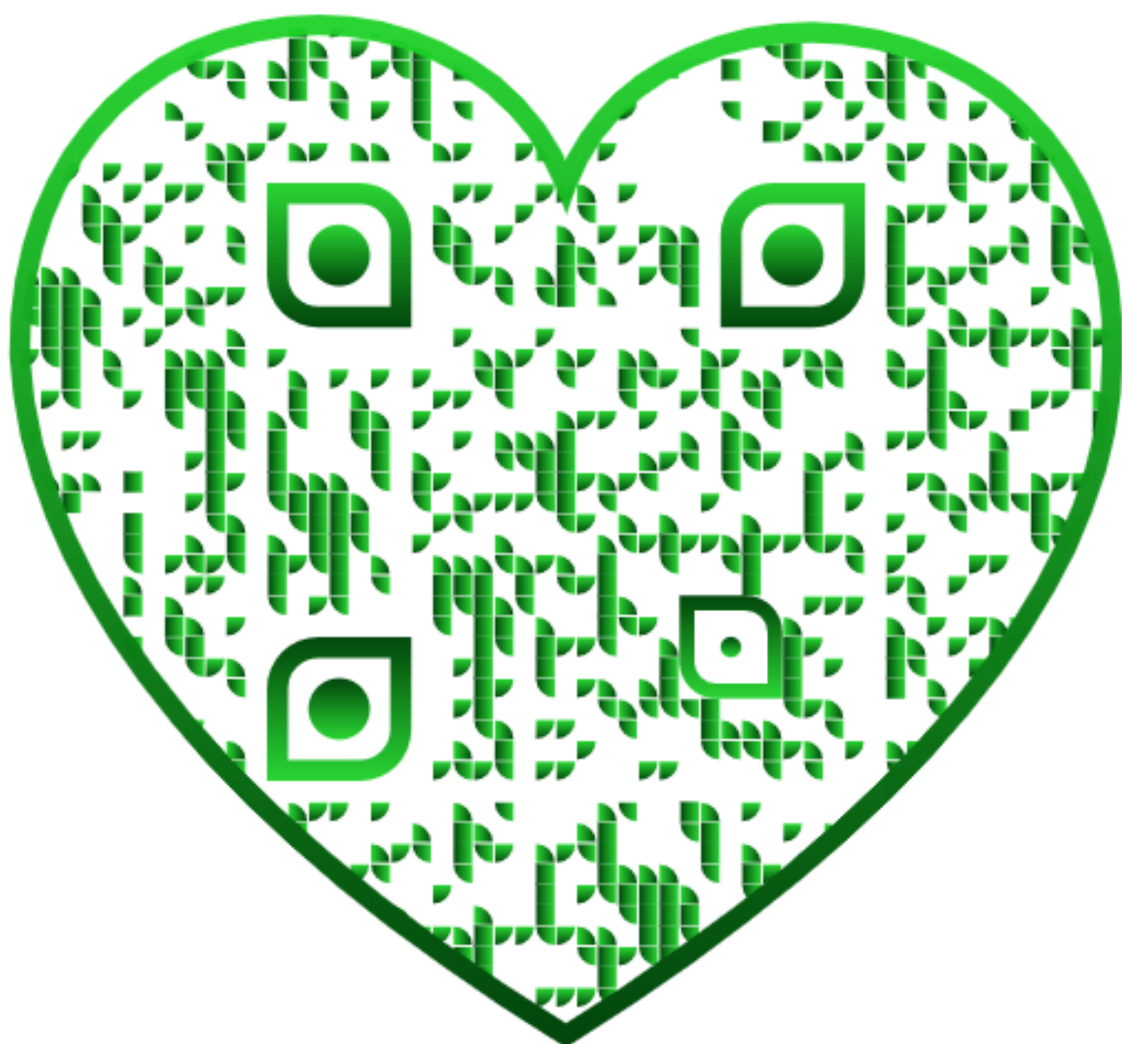
TWILIGHT OF THE 'PATRIOTS'

LNER 2-6-0s ON THE WEST HIGHLAND

HEADLAMPS AND HEADCODES



RECORDING THE HISTORY OF BRITAIN'S RAILWAYS



Editorial

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RECORDING THE HISTORY OF BRITAIN'S RAILWAYS

History in the press

ALISTAIR F. NISBET is one of our regular article contributors – and here in this guest editorial he speaks up for one of our most valuable research resources.

Some long-term readers of *Backtrack* may recall that almost twenty years ago I made an appeal to those who undertake historical research in local and national newspapers to make as much use as possible of the British Library's Newspaper Library at Colindale in North London. At the time there appeared to be a very serious threat to the availability of these newspapers to registered readers. A copy of this appeal actually appeared on a notice board at Colindale, having been seen by a member of staff.

Although we were unsuccessful in retaining the Colindale facilities, the way in which the closure was implemented has not resulted in the loss of access to these newspapers. Instead of being stacked in what was quite unsuitable shelving when considering the long-term preservation of what is, after all, a priceless collection, they are now held in a purpose-built building with minimal light and reduced oxygen levels and at a temperature which ensures they remain in the best possible condition. Modern technology works in this case. Yes, there has been a loss of immediacy in accessing these original volumes for, unless you can go to Boston Spa in Yorkshire, you must request that they be extracted from their store (all automatically with digitally controlled robotic order-pickers for no people are permitted inside this building) and brought to the new Newsroom at St. Pancras. This request must be made two full working days in advance. All the microfilmed copies which were held at Colindale are now retained on-site at St. Pancras and can usually be obtained for searching (via new digital viewers) within 70 minutes of placing an order.

There is also now a further facility available which is being run in conjunction with the British Library and this is the British Newspaper Archive. This is a subscription service and can be taken out for a few days or for a whole year without limitation on the number of times it can be accessed. Essentially it involves digitally scanning all the printed versions which are suitable for such treatment although inevitably some will be in such poor condition that they will never become available. These digital versions can be accessed online by use of keywords and dates and the results are generally good – sometimes a little lateral thinking is required when trying to describe a particular incident in which one is interested. The Archive can be accessed from inside the British Library at St. Pancras without charge; if you want to do so at home,

or anywhere else, via a PC, laptop, tablet or smartphone so long as it has internet capability, then you need to buy a subscription. In addition many public libraries have taken out subscriptions although the terms of the licence generally mean that the Archive can only be accessed from within one of their buildings on one of their devices. Not every newspaper published in a locality will be available as some were damaged prior to World War II, by water ingress I believe, so the researcher will still have to hope that the local County Record Office had the foresight to collect copies of all the papers which circulated in its area.

Naturally as with any newspaper resource you need to treat it as not being 100% accurate – if you can find a second or third report in another publication it is worth cross-checking them to see what was edited out or was simply wrong. Sometimes an editor had his own agenda (or his publisher did) and could cause a very different slant to be put on a report, especially if he wished to promote a particular political party or its views – much as happens nowadays, of course. One particular example I have come across is the different lines taken by the two daily papers which were published in Dundee in relation to a proposed suburban railway for the city.

In the field of railway journalism there have been many magazines and other journals which promised much but have long since disappeared without trace. There is, however, one title which has remained in existence for about 120 years now and this is *The Railway Magazine* – ownership, and of course editorship, has changed a number of times but it still aims to cover historical as well as current railway matters. As *Backtrack* readers we are, of course, interested in what has gone before and it is good therefore to be able to refer to the *RM*'s past editions, even if these tended to be held in a few private collections or at large public libraries such as Birmingham Central or the British Library. Now this valuable resource is available from home or almost anywhere for the publishers have digitised every issue in their own archive, this being accessible online on payment of a subscription fee – in fact, it now makes access to its archive free to subscribers, to celebrate the title's longevity.

If you have not already tried one of these facilities, then I suggest you may well find it a very convenient way of conducting your research or simply just finding out what happened on a particular date.

Alistair F. Nisbet

Guest editorials continue to be welcome - if you have a particular topic you'd like to air, contact the Editor.

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A moment in time at Dulverton as GWR '57XX' 0-6-0PT No. 3659 simmers in the morning sunshine after arriving with the 7.53am Exe Valley branch train from Exeter St. David's on 30th August 1962. (Martin Smith)

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LNER 2-6-0s ON THE WEST HIGHLAND

The West Highland line from Glasgow to Fort William and the Extension to Mallaig called for some forceful motive power to meet the challenge of its gradients through the mountains and its often heavy trains. The London & North Eastern Railway found three 2-6-0 classes to fit the bill: its Class K2 which had originated on the Great Northern Railway in 1913, its own K4 Class designed specifically for the West Highland and finally the K1 Class built after nationalisation. All were photographed on home ground by **GAVIN MORRISON**

ABOVE: The Peppercorn K1s introduced in 1949 appeared on the West Highland early in their careers. No.62011 has arrived at Fort William on the 5.40pm from Mallaig on 13th August 1960. This Fort William station was sacrificed to road improvements and a new station was opened about ¼-mile to the north in 1975.

BELOW: Earlier in that journey this view was taken just outside Mallaig to show some of the wonderful scenery to be enjoyed on the West Highland. And it got even better further along...





ABOVE: The GNR's K2 had been conceived for heavy goods work and began to make their presence felt on the West Highland in the 1920s. Thirteen were given names of lochs near the line, hence No.61788 *Loch Rannoch* at Fort William shed on 1st September 1958. The GN had not been known for lavishing commodious abs on its crews, but those up on the West Highland were given 'proper' side windows cabs for extra protection from the elements.

RIGHT: The scenery of the West Highland was superb however you looked at it – but was this the best view of all, from the footplate of No.62011 leaving Arisaig on 14th August 1960?



BELOW: By appointment at Fort William: K1 No.62011, ready to leave the old station with the 4.35pm to Mallaig, first has to await No.62012's arrival from there on 10th August 1960.





ABOVE: The locomotive requirements of the West Highland were specific – power output and axle loading limitations. The result in 1937 was the K4 Class of six three-cylinder 2-6-0s. Five were named in honour of Clan chiefs of which we have No.61995 *Cameron of Lochiel* on the turntable at Fort William shed on 18th June 1960. B1 4-6-0 No.61307 is visiting from Edinburgh.



LEFT: No.61995 leads the Stephenson Locomotive Society's 'White Cockade' railtour around the Horse Shoe Curve between Ben Doran and Ben Odhar, north of the County March Summit beyond Upper Tyndrum, on 18th June 1960.

BELOW: On the same occasion No.61995 crosses the single track lattice girder Rannoch Viaduct, the longest on the Glasgow–Fort William section of the West Highland.





TWILIGHT OF THE 'PATRIOTS' A CASE STUDY

BY ANDREW JAMES

This article will concentrate on the twilight years of the unrebuilt LMS 'Patriot' 4-6-0s in the period between June 1957 and October 1961 from the perspective of performance. Despite rebuilding occurring on the class to an extent that eighteen out of 52 members of the class were so treated, roughly two-thirds of the class went to the breaker's yard in their original parallel boiler state.

Coverage of their performance in the railway press was largely a short-lived episode in the era between 1930-1939. This largely featured running on the Midland Main Line and the neighbouring Western Division of the West Coast Main Line. The post-war era was rather different after the introduction of 191 Stanier 'Jubilees'

during the 1934-1937 era (pre-war) when they largely replaced these engines on the fastest and most onerous turns. However, that does not mean that the 'Patriots' totally lost their sparkle when occasion demanded as the logs in this article will testify.

O. S. Nock in his tome *The 'Royal Scots' and 'Patriots' of the LMS*, remarked about these locomotives at the time of their introduction. "The 'Baby Scots', both as traffic units and actuarially, began their career in a blaze of glory, and as late as 1934 a further ten were built at Crewe."¹ Contemporary writer C. J. Allen, the other member of this performance duopoly in this era, remarked in his train running column: "Apart from any considerations of fuel consumption or maintenance costs,

'Patriot' No. 5503 had been named *The Leicestershire Regiment* by the LMS in 1938. This photograph was taken by British Railways to mark its renaming as *The Royal Leicestershire Regiment* on 15th November 1948. The locomotive has been given its new BR number 45503 for the occasion. (Pendragon Collection)

concerning which I have no figures, based on actual performance in relation to weight the 'Baby Scots' [unofficial name for the 'Patriot' Class] when efficiently handled seem to me the most remarkable engines yet produced by the L.M.S.R. or constituent companies."²

When this was written in November 1934 this was fair comment. It will be recalled that Stanier and his design team had not fully addressed the teething problems of his 'Jubilee' and his contemporary 'Princess Royal' Classes by

'Jubilees' No. 45588 Kashmir features as a comparison with 'Patriot' running in Table 2. Here it is working a special train near Dalbeattie on the 'Port Road' to Stranraer on 15th April 1963. (W. S. Sellar)





this stage. The Fowler design by contrast went into production without any serious design problems initially and seemed to point to the way ahead. In the fullness of time, however, certain defects of the class did become more apparent according to Messrs. Clay and Powell. One of the most pressing was the issue of leaking smokebox doors which could have an adverse effect on the steaming of the locomotives.³

As has been well chronicled elsewhere; the introduction of the 'Jubilee' Class in the 1934-1937 era began to displace the 'Patriots' and by the outbreak of World War II in September 1939 much of their first-class work had gone over to these taper-boilered contemporaries. The original 5XP classification for both types in the author's opinion is just what they were, in essence an express version of Stanier's Class 5. It will be recalled that post-war both the 'Jubilees' and 'Patriots' (unrebuilt version) were given a '6' classification implying that the British Railways thought they were more powerful than the ubiquitous 'Fives'. This does not, however, stand up to scrutiny. Respected performance analyst David Pawson has kindly given the writer a spreadsheet analysis for all three classes. The average from the five best performances based on a duration of five minutes are as follows: for the 'Jubilee' 1,676 IHP and 1,624 for the Class 5. In real terms this is barely measurable in terms of performance. The corresponding average for the unrebuilt version of the 'Patriot' Class is 1,482.

By 1957 two decades or so after this period, they were firmly down the pecking order when it came to the prestigious mile-a-minute club (the Gold Standard for steam scheduling in the UK), finding regular work on semi-fast duties or expresses that ran well below this exalted level. One exception to this rule was the 10.00 Northampton-Euston which occasionally turned up behind a member of the class in its original guise.

This duty was well-known to the timing fraternity as being the only rostered XL

No.45503 The Royal Leicestershire Regiment picks up water on Dillicar troughs while working a Glasgow/Edinburgh-Manchester/Liverpool express in July 1960.

(T. J. Edgington Collection)

limit timing for a Stainer Class Five. This working was a lightweight formation of six or seven coaches and did not require a great deal of exertion on the power front to keep time, but was a rare instance of enterprise in the timing department of providing a smart booking by perforce: in this instance due to an express which was booked immediately behind it and therefore the acceleration provided a greater margin to minimise delay.

The service featured in Table 1 was the humdrum 11.05 Euston-Carlisle. The steam era even in the apogee of scheduling during the mid-late thirties always featured services such as these. Superficially they looked like a 'soporific trundle' in comparison with something like the 'Midday Scot'. The reality was somewhat different and more complex. Scheduling between stops often vacillated from being semi-comatose on one section to being quite tightly timed on another. In one sense they tended to be largely ignored by both Allen and Nock due to the relatively short duration of maximum effort. The former made this clear for a reason for exclusion in more than one of his *Railway Magazine* articles.

The first arena that features here is the well-known mountainous section between Oxenholme and Penrith. To the timer this was often a section of dual delight, featuring potentially good performance and underrated scenery as a diverting backdrop. Derek Cross wrote a very succinct précis on both features. "...Then a few miles undulating pastoral country up to Oxenholme and finally the hills onwards to Carlisle. The actual climb to Shap Summit falls into two parts. The first hard climb, known as Grayrigg starts immediately

north of Oxenholme station and rises for 6½ miles at gradients between 1 in 104 and 1 in 131 to a summit at Grayrigg station. This is followed, somewhat surprisingly, by five miles of a level or gently descending nature to the crossing of the River Lune immediately south of Tebay station. It is this central section of the old Lancaster and Carlisle that provides the most beautiful scenery of the whole line, with the rounded limestone hills of the North Pennines to the east and the harsher, more angular granites of the Lakeland mountains to the west.

"It also boasts over a mile of straight and level track known to generations of Tebay drivers as 'The Fair Mile'. Once over the Lune the upward climb begins in earnest with a mile and half at 1 in 146 through Tebay station to the Greenholme I.B. signals, immediately followed by four miles at an unrelenting 1 in 75 up to Shap Summit. This four miles for long the terror of northbound trains drivers and fireman is the notorious Shap Bank."

After a somewhat lengthy preamble let us get to the matter of analysing the performances in Table 1. The fastest services in this era which were rostered for a Class 6 were the XL limit schedules which mainly featured start-to-stop average speeds of around 60mph start-to-stop (strictly speaking from 58mph and over in C. J. Allen's listings). In fact in 1957, surprisingly enough, it was the 'Jubilees' which pulled the largest proportion of services in the UK at this exalted level and not the Pacific monopoly that one might imagine. These generally also required the highest level of power as well with few exceptions. This service was certainly not in this category as the right-hand schedule indicates, either in terms of speed or power as regards schedule adherence, as opposed to regaining time. The late starts from Oxenholme were undoubtedly the catalyst for some respectable power being developed at the drawbar. Hugh Ellison was fortunately on hand to record these for posterity. We should be eternally grateful that he took the time and effort to do so.



How does this prosaic working compare with the glamour portfolio in terms of power?

At the foot of Table 1 are some estimates of Indicated Horsepower for the climbs to Grayrigg and Shap Summit. Run 1 features a 'Jubilee' to compare with two unrebuilt 'Patriot' efforts. The class average on both climbs for 'Jubilees' is 1,173 and 1,213 and 1,300 for the latter. The descent towards Penrith calls for little comment except to say that the curvature of the line at both Thrimby Grange and between Clifton and Eamont Junction restricted speed more than gravity alone would.

In Table 2 we can compare some power estimates in the pre-war era behind 'Patriot' No.5534 on an XL limit schedule between St Pancras and Kettering. This was recorded by D. S. Barrie on the 30th June 1939. The sections involved, like Table 1, reflect the more onerous periods of working. The load was a nine coaches/271tons tare/285tons gross formation. The time taken to Kettering was 69min 44sec. The schedule is not shown by the recorder but the fastest schedules in this direction were 71 minutes for 72 miles in this era. 'Patriots' only infrequently worked on these services after the war, where prior to this they had to an extent shared these duties with the 'Jubilees'.

What can be seen in comparison with Table 1 is a similarity of values, but at a different speed range. The duration of these efforts tends to be longer, simply due to the greater distance involved and the lack of speed restrictions encountered en

No.45541 Duke of Sutherland makes its way steadily past Shap Wells on the climb to Shap Summit with Manchester-Keswick train on a wet August day in 1958. (T. J. Edgington Collection)

Table 1	Run Date Train	1 13/05/1958 11.05 Euston– Carlisle 45588 ('Jubilee') 7/244/260 H.G.Ellison		2 05/01/1958 11.05 Euston– Carlisle 45541 7/244/260 H.G.Ellison		3 11/09/1960 11.05 Euston– Carlisle 45503 8/274/290 H.G.Ellison		
	Motive Power Load Recorder							
Miles		m s	mph	m s	mph	m s	mph	sch
0.00	Oxenholme	0 00	27L	0 00	92L	0 00	36L	[23]
3.41	Hay Fell	6 21	42/39	6 30	42/45	7 04	41	
5.16	Lambrigg	8 52	41/39	8 51	44	9 27	44	
7.01	Grayrigg	11 45	40	11 32	40	12 04	42	
8.78	Low Gill	13 54	55	13 41	54	14 03	59	
11.86	Milepost 31	17 13	59	16 56	61	17 01	66	
12.98	Tebay	19 22		18 27		18 24		
0.00		0 00		0 00		0 00		[14]
0.88	Milepost 33	2 31	34/38	2 34	34/37	2 30	33/37	
1.88	Milepost 34	4 11	34	4 15	34	4 14	34	
3.03	Scout Green	6 14	33	6 16	34	6 18	32	
3.88	Milepost 36	7 48	33	7 50	33	7 56	31	
4.88	Milepost 37	9 39	31	9 40	32	9 52	30.5	
5.38	Milepost 37½	10 38	31	10 36	32	10 50	30.5	
5.56	Shap Summit	10 57		10 55		11 11		
7.60	Shap	13 24	61	13 27	58	13 38	60	
10.83	Thrimby Grange	16 29	68/60*	16 39	65/60*	16 34	70	
14.90	Clifton & Lowther	20 15	68/65*	20 35	65/55*	20 00	73	
18.05	Eamont Junction	23 09	69/50	23 42	63/59	22 39	60*	
19.10	Penrith	27 22	p.w.r	25 13		24 25		
	Hay Fell–Grayrigg: (1 in 115) /EDHP/IHP/MPH Run 1 939/1,124/40.1 Run 2 1,002/1,24/32.3 Run 3 1,149/1,353/43.2							[29]
	Milepost 34–Milepost 37 1/2: (1 in 75) /EDHP/IHP/MPH Run 1 1,090/1,221/32.3 Run 2 1,093/1,222/32.9 Run 3 1,125/1,246/31.7							

Table 2						
Locations	gradient (average)	a.s.** mph	EDHP	IHP	duration m.s.	speeds mph
Hendon-Elstree	214	58.4	821	1,181	5min 39sec	61-54
St-Albans-Luton	2205	68	705	1,200	9min 5sec	62-70
Bedford North Jct-Milepost 59½	239	63.7	799	1,230	9min 20sec	73-51
Wellingborough-Burton Latimer	1155	60.7	756	1,145	4min 15sec	54-64
** Average speed between the two locations						



Table 3	Run Date Train	4	5			
	Motive Power Load Recorder	17/06/1957 2.15pm Bristol T.M.– York 45509 10/299/325 G.Aston	29/08/1958 2.15pm Bristol T.M.– York 45662 ('Jubilee') 10/331/355 G.Aston			
Miles		m s	mph	m s	mph	sch
0.00	Derby Midland	0 00		0 00		[34]
3.25	Little Eaton Jct	6 18	48	5 51	50	
5.28	Duffield	8 34	51.5	8 09	56/54	
7.81	Belper	11 35	52	10 55	55	
8.76	Broadholme	12 40	52	11 56	56	
9.94	Ambergate Sth Jct	14 03	48*	13 13	51.5/48*	
13.95	Wingfield	18 55	49	18 00	53	
17.59	Stretton	23 31	46	22 10	51/40	
20.15	Clay Cross	26 47	47/slack	25 59	43//slack	
22.10	Hasland	28 59	57	28 24	50.5	
24.15	Chesterfield Midland	31 37		31 09		
0.00		0 00		0 00		[21]
0.61	Tapton Junction	1 46	37.5	2 01	34	
1.74	Sheepbridge	3 21	47.5	3 43	45	
3.93	Unstone	6 19	41.5/38.5	7 05	34/31	
5.31	Dronfield	8 21	39	9 45	32	
6.38	Bradway SEP	10 04	38/14/sigs	11 43	30	
8.01	Dore	14 20	33	13 53	53.5	
8.70	Beauchief	15 21	46	14 35	60	
9.53	Millhouses	16 22	52	15 24	63.5	
10.90	Heeley	17 49	57	16 37	70	
12.27	Sheffield Midland	21 21	sigs	19 32	sigs	
	Duffield –Ambergate South Junction: (1 in 424)/EDHP/IHP/MPH Run 4 536/816/51.4 Run 5 654/983/55.4					
	Sheepbridge –Bradway South End Portal: (1 in 106) EDHP/IHP/MPH Run 4 1,100/1,285/40.8 Run 5 942/1,086/34.2					

route which would interrupt running and hence power.

A post-war effort timed by Mike Bland on the 16th August 1957 behind 'Jubilee' No.45577 *Bengal* on nine coaches again between St. Pancras and Kettering provides similar figures, not surprisingly. The schedule again was 71 minutes for 72 miles on the XL booking. The time taken was 72 mins 12 secs or 71.5 minutes net to allow

for a signal check approaching Kentish Town. This is the closest thing the author can find to an exact match for the schedule in either era.

Interestingly the LMS economic limit for a 'Jubilee' was set at around 1,200-1,280 IHP in the 30-70mph range which accords with the XL limit schedule on the harder steaming sections featured here.⁴ The corresponding maximum was set at 1,700-

1,900 in the same speed range. The latter was no doubt derived from the test runs with class member *Rooke* in October 1937. Given the not too-dissimilar dimensions of the 'Patriots' and the nature of their duties which they initially shared with these locomotives, this figure must have been similar for both classes. As far as the writer can ascertain no IHP/EDHP curves were ever published for the latter class and so no verification exists for a cross-check.

In Table 3 we move to the Midland Division of the London Midland Region. The line from Derby to Sheffield in the steam era like now was an important artery on the rail network. Traffic flows had an emphasis on the route to St. Pancras and the West of England main line to Bristol. Despite this it was never in the forefront of fast schedules despite a very healthy line limit of 80mph in the BR steam era.

The route from Derby was gradually adverse as far as Stretton where it descended from this point into Chesterfield. The restart from the town with the crooked spire to Sheepbridge was gently downhill. After this there is a climb of around 1 in 100 to the south end of Bradway Tunnel. From the north end of this location to Queens Road (in the vicinity of Milepost 157¾) the line descends on the same grade.

Between 1951 and 1958 the only 'Patriot' based on this route was *Derbyshire Yeomanry* at Derby. However, if the Railway Performance Society online archive is

No.5534 was the subject of the 1939 run in Table 2. The location of this photograph is not recorded but for most of the 1930s it was based at Leeds Holbeck depot. It was named *E. Tootal Broadhurst* in September 1937 and was rebuilt with a taper boiler in 1948. (Pendragon Collection)





anything to go by other members of the unrebuilt version did appear from time-to-time. This locomotive was the alleged 'black sheep' of Derby due to its frequent visits to the works for repairs. However, like several classes both steam and diesel there was often a dichotomy between availability and performance. With the latter they

could perform well or up to specification in the instance of more modern traction.

This locomotive seems to be in charge in Run 4. The ascent from Sheepbridge to Bradway was tackled in an effective manner with speed only falling from 47½mph at the former to 38 at the latter. This involved an EDHP of around 1,100 – a creditable figure

No.45509 The Derbyshire Regiment passes Trent with a Manchester Central–Nottingham train over the Midland main line. (T. J. Edgington Collection)

in this speed range for a Class 6 rated locomotive.

Another comparison in Run 5 is provided with 'Jubilee' *Kempfenfelt* whose crew put up another competent effort. The contemporary 4-6-0 provided a better performance to Chesterfield despite a slighter heavier load. The ascent to Bradway was as not as vigorous as the 'Patriot' run but the crew of No.45662 had matters well-in-hand and arrival at Sheffield was on time.

These services were not as tightly timed as the XL limit schedules, but often involved complex cyclic diagrams which involved long mileages and frequent remanning en route. This could have an adverse effect on the steaming of these locomotives which were of relatively modest dimensions. (See Table 3 on page 650).

Table 4	Run Date Train	6		7		8		
	Motive Power Load Recorder	08/01/1959 8.05 am B.N.S.– Newcastle 45519 7/236/250 G.Aston		17/10/1961 8.05 am B.N.S.– Newcastle 45725 ('Jubilee') 8/265/285 G.Aston		10/06/1960 9.15 am St. P–Edinburgh W 45659 8/287/305 D.Twibell		
Miles		m s	mph	m s	mph	m s	mph	sch
0.00	Chesterfield Midland	0 00		0 00		0 00		[18]
0.61	Tapton Junction	1 52	37	1 49	32.5	1 47	31.5	
1.74	Sheepbridge	3 37	46	3 33	43.5	3 12	50	
3.93	Unstone	6 37	37	7 21	28/27	6 01	42	
5.31	Dronfield	8 53	35	10 19	28	7 58	39.5	
6.38	Bradway SEP	10 48	33.5	12 47	26	9 36	39	
8.01	Dore	12 57	51.5	15 18	46	11 43	49.5	
8.70	Beauchief	13 42	55	16 06	52	12 30	56/50	
9.53	Millhouses	14 35	61	17 00	58/62	13 22	57	
10.90	Heeley	15 54	62	18 20	58	14 43	61.5	
12.27	Sheffield Midland	19 44	[21]	21 24	[19]	17 23		
	Sheepbridge-Bradway South End Portal: (1 in 106) Run 6 817/981//37.9 Run 7 674/789/29.5 Run 8 1110/1318/43.2							

Table 5	Run Date Train	9		10	
		23/08/1958		13/08/1959	
	Motive Power	45533		45581 (Jubilee)	
	Load	12/382/405		12/390/405	
	Recorder	B.Price		B.Price	
Miles		m s	mph	m s	mph
0.00	Manchester E	0 00		0 00	
3.80	Eccles	6 20	55	6 37	56
4.80	Patricroft	7 26	57	7 43	56
8.68	Astley Green	11 12	67	11 35	65
10.53	Glazebury	12 50	69	13 15	69
12.44	Kenyon Jct	14 30	71	14 54	68
15.61	Newton-le-Willows	17 17	68	17 43	65
16.64	Earlestown Jct	18 41		19 46	
Patricroft–Newton-le-Willows: (-4211)/EDHP/IHP/MPH					
Run 9 820/1,302/66.7					
Run 10 734/1,208/65.9					

Table 4 provides a comparison between No.45519 *Lady Godiva* with two 'Jubilee' runs. Unfortunately exact, or very similar, loads could not be found between these two classes. However, what is been measured here is the level of 'power' and theoretically at any rate the load does not always influence this matter.

To use a metaphor, the lady did not reveal all here, just a hint of scantiness! The ascent from Sheepbridge to the south end of Bradway Tunnel was a competent effort without 'fireworks'. The crew did exactly what was asked of them. The precipitous descent from Dore to Sheffield down the 1in 100 or so was usually shown a great degree of respect by engineman and the crew of *Lady Godiva* did not buck the trend. This member of class was transferred with two others in November 1958 to Bristol Barrow Road, bringing the total in the Midland Division to an overwhelming four members!

By contrast the crew of *Repulse* in Run





7, ironic given the lack of cooperation on the steaming front from this 'Jubilee'. The crew had something of a struggle to Bradway and the running down to Sheffield, given the steepness of the gradient, was restrained.

'Jubilee' fans do not despair at this point. Douglas Twibell had a much better effort behind *Drake* in Run 8 on the down 'Waverley'. By contrast the crew 'caned' this engine into speed by the time Sheepbridge was reached and the falling-off to Bradway was more gradual. A minimum of 39mph at the latter would have been considered excellent work for the period. What it does show graphically is the degree of variation which existed between even moderately-powerful motive power units in the steam era. (See Table 4 on previous page).

Finally, we look at the Central Section on the London Midland Region. The tendency from the former station at Manchester Exchange was a faint descent to Earlestown. Here *Lord Rathmore* got away to a decent turn of speed and the acceleration from 57mph at Patricroft to 67mph at Astley Green reflects the 'muscle' these engines could develop when asked. The attainment of 71mph at Kenyon Junction was very creditable with twelve coaches at the drawbar. This was well above norm in this period, at least in the post-war era at any rate. This is reflected in the power estimate for this run, a very healthy level for an unrebuilt 'Patriot' in any era during their existence.

Run 10 (see Table 5 on previous page) behind *Bihar and Orissa* is another very solid effort behind 'Jubilee'. These trans-Pennine workings saw very little coverage in the performance press during the steam era. Not quite the equal of the 'Patriot' run – this was a good solid performance, something that was not taken for granted in the post-war steam era.

As remarked earlier, A. J. Powell drew attention to the problem of leaking 'smokeboxes' and thought that the 'Patriot'

'Jubilee' No.45725 Repulse near Bradway Tunnel with the 10.05am Edinburgh Waverley–London St. Pancras 'Waverley' service on 19th June 1954.

(T. J. Edgington Collection)

engines in their original state suffered from both incorrect boiler proportions and draughting that was deficient.⁵ He concluded that because of these latter two factors the engines could only be driven on a light rein. However, the runs featured here suggest that when the engines were asked to provide a 'bit of muscle' they were not found wanting. It is certainly true that the power developed was nothing 'startling' at around 42 HP per square foot of grate assuming 1,250 IHP, but they were up to the demands of the schedule in both the pre- and post-war contexts and surely nothing more can be asked for. (See Table 4 on previous page).

Technical details

For those who are interested in technical matters I have set out the engine and coaching stock resistance formulae courtesy of Douglas Landau.

Engine resistance

For the 'Patriot' Class: $7.5 + V/16 + V^2/440$.
V = speed in mph

For the 'Jubilee' Class: $7.4 + V/16 + V^2/520$

Assumed weight: 'Patriot' is 123 tons

Assumed weight: 'Jubilee' is 133 tons

These equations give the answer in lb per ton. This need to be multiplied by the engine weight and the average speed between the timing points.

Coaching stock

These equations give the answer in lb per ton and need to be multiplied by the tare weight of the stock and the average speed between timing points.

$2.4 + V/20 + V^2/1000$. This applies to Stanier corridor stock with a mean tare weight of 30 tons

This applies to runs 4, 6-7.

$2.4 + V/20 + V^2/1100$. This applies to BR Mk1 stock with a tare weight of 33-37 tons.

This applies to the other runs.

Coaching stock formations during the era these runs were recorded were often a mixture of the two types and sometimes other vehicles as well and should be treated as a rough estimate rather than a definitive guide.

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Acknowledgements

Once again, I am indebted to the Railway Performance Society for allowing me to use its online archive database for the logs featured here. I would also like to thank Ian Umpleby and Bevan Price for the appropriate mileage and gradient data. My thanks also go to David Pawson and to Douglas Landau for his technical assistance and providing the engine and coaching stock resistance formulae.





THE MARPLE DIESEL TRAIN

An article on BR Modernisation Plans last year (BT 38/9 & 10) made mention of some of the last Class 101 Metro-Cammell diesel multiple units (first introduced in 1956) used on the Manchester Piccadilly–Rose Hill Marple local services in 2003. Here they are as photographed by **TOM HEAVYSIDE**

ABOVE: A number of twin motor car sets was retained for the services between Manchester, Romiley, Rose Hill, New Mills and Sheffield. No.101 692 leads after arriving at Marple with the 15.25 from Manchester on 8th April 2003.

RIGHT: That much-loved view through the front windows of a DMU! The 15.58 from Marple approaches Manchester Piccadilly on the same day as the above.



Two cars were repainted in the original green livery and became known as 'Daisy'. The 15.14 Manchester–Rose Hill nears Romiley Junction on 17th April 2003. They made their final runs on Christmas Eve that year.



It would appear 38 members of Hurlford shed including Driver J. O'Brian and Fireman Arthur Doyle (plus a young engine spotter?!) are rather proud to pose alongside the first of James Stirling's most famous G&SWR classes. It is No.6 itself, a 4-4-0 built at Kilmarnock Works, which entered service in July 1873. After satisfactory performance, another 21 members of the '6' Class were built at Kilmarnock. The '6' Class enjoyed the distinction of having the largest driving wheels of any G&SWR motive power. From the commencement on 1st May 1876 of the through express services with their Pullman cars between Glasgow St. Enoch and London St. Pancras, the '6' Class was entrusted with the duty as far as Carlisle. (Ian Middleditch Collection)

The year was 1922. A young man and a young woman – possibly a honeymoon couple – were standing on the platform at Kilmarnock station waiting for their train to arrive. Now, it was the height of the summer. It was very, very, very hot indeed. The sun was beating down relentlessly from a cloudless sky. The brilliant sunshine was glinting on and reflecting from the rails. The woman turned to her husband and said "I don't know whose job it is to polish the rails, but they make a very good job of it."

After the city of Glasgow where the Glasgow & South Western Railway was headquartered and where it had its major terminal station, St. Enoch, the town of Kilmarnock along with its immediate environs was clearly the most important location on the G&SWR system. What an amazing railway history Kilmarnock has had – a history that excluding the cities is surely unrivalled by any other town in Scotland for both its complexity and distinction arising from its number of "firsts" – and not forgetting world records!

Kilmarnock boasts the first railway station in Scotland – that of the Kilmarnock Troon Railway – although that station is long gone and what was the station must have been nothing like what nowadays we understand a station to be. No information about it exists but any building would certainly have been rudimentary and there might not even have

KILMARNOCK'S RAILWAYS TO 1922

PART ONE

BY DOUGLAS McNAUGHT

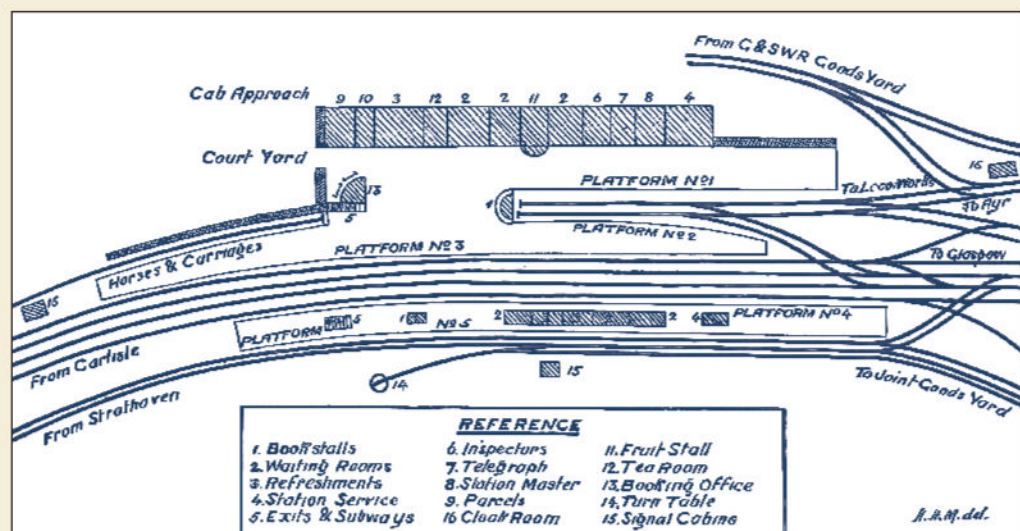
been a platform, for the railway, as a plateway with 'L'-shaped cast iron rails of 4ft gauge, which officially opened on 6th July, 1812, but actually commenced operations the previous year, was designed primarily to carry coal, although under the authorisation of an 1808 Act of Parliament it did also convey passengers from its beginning, the passengers being carried in privately-owned, not railway company-owned, carriages. The first steam locomotive to run in Scotland, named *The Duke* after the Duke of Portland who had financed the building of the railway to carry coal from his Kilmarnock area pits to the harbour at Troon, was used from 1816, but the cast iron

rails broke repeatedly under its weight, and until 1824, when the locomotive was sold, traction was a shared effort between *The Duke* and horse haulage.

Thereafter, the Kilmarnock & Troon Railway operated exclusively with horse haulage until 1846, when it was leased for 999 years to the Glasgow, Paisley, Kilmarnock & Ayr Railway, with an empowerment to convert to standard gauge with edge rails under steam traction, this conversion taking two years to complete. The lease ended in 1899 when the K&TR was wound up on the G&SWR buying the line. The conversion work took out of use in 1846 the four-arch Laigh Milton Viaduct near Gatehead, built between 1809 and 1811, the first rail-over-river bridge in Scotland,

This drawing of Kilmarnock station, believed to have been made in 1908, is of considerable interest through illustrating the position and purposes of the various buildings, rooms and fixtures in use at the time. It is, however, much less reliable in relation to the shape of the platforms and positioning of the trackwork and in this context, while still being useful, it should be treated as indicative only.

(Author's Collection)



when a section of the line was re-routed. Happily for heritage purposes, Laigh Milton Viaduct, now Grade A listed, survives, having been restored in 1996 and, at 214 years of age, is the oldest railway viaduct in the world still in existence.

What a legacy the Kilmarnock & Troon Railway has left in Scottish heritage - the first public railway, the first railway station, the first railway viaduct, the first railway to provide a passenger service and the first railway to operate a steam locomotive! And in relation to a wider heritage, an all-British heritage, this same locomotive has the distinction of being the first six-wheeler!

All of the above is fact; now here is a piece of speculation that could well have real substance. A book published in 2014 sets out to dispel many common beliefs associated with the railways and to prove them to be myths. A definitive statement made therein is relevant to the heritage of the K&TR:-

"Famously in 1825, Geordie (Stephenson) launched the Stockton and Darlington Railway. Undoubtedly the first passenger railway service in the world."

But the passenger service provided on the K&TR preceded the Stockton & Darlington service by fourteen years. So with my having proved a definitive statement in a book that sets out to dispel generally recognised "facts" as being myths to actually be a myth itself, does this mean that the passenger facility on the K&TR might be the first in the world?

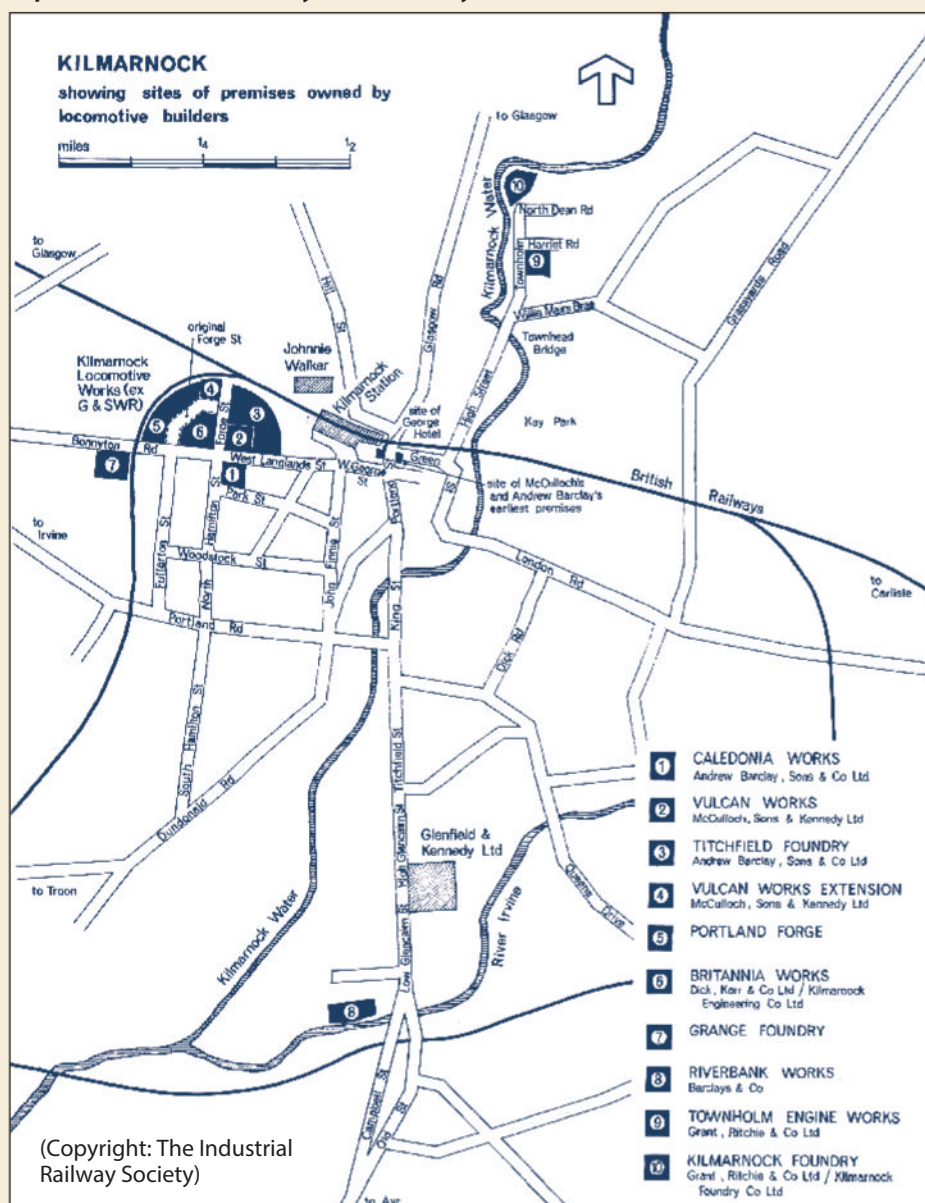
Kilmarnock was to develop into what can be truly described as a railway town. The station opened on 4th April 1843 when the Glasgow, Paisley, Kilmarnock & Ayr Railway brought its line via Dalry to Glasgow into use, and with it, a small engine shed with 50ft turntable adjacent to the station, along with a smallish goods yard. The Dalry to Kilmarnock branch line became part of the main line from Glasgow (St. Enoch) to England on 28th October 1850, when the line to Gretna Junction was opened throughout, the Glasgow, Paisley, Kilmarnock & Ayr Railway having built the line southwards to Horsecleuch near New Cumnock and the Glasgow, Dumfries & Carlisle Railway having built the line northwards from Gretna Junction. The date of opening of the line throughout was the vesting date of the Glasgow & South Western Railway with the amalgamation of the two companies.

Kilmarnock Viaduct, immediately south of the station and opened to traffic in 1848, which carries the railway over four public roads and over Kilmarnock Water, is an impressive masonry structure of 23 arches. The Irvine Viaduct at Crookedholm, between Kilmarnock and Hurlford, is of seven spans. Although not in the immediate environs of Kilmarnock, it is worth mentioning that the construction of the line by the GPK&AR included south of Mauchline the beautifully elegant Ballochmyle Viaduct of seven arches, whose centre arch over the River Ayr, a perfect semi-circle of 181 feet, was and still is the widest arch of any masonry railway viaduct in the world. The other six arches are each of 50ft width.

The direct route to Glasgow, the Glasgow, Barrhead & Kilmarnock Railway, a joint line between the G&SWR and the Caledonian



Sitting in Platform No.3 at Kilmarnock station, the main through down platform, is James Manson's '8' Class 4-4-0 No.73 at the head of a train which is likely bound for Glasgow St. Enoch. This particular example was outshopped as new from Kilmarnock Works in January 1893. The '8' Class which totalled 57 locomotives was the first designed by Manson for the G&SWR. They were capable machines, doing excellent work on the coast services and branches, but lacking in tractive effort for main line express work, for which they were normally double headed. (Ian Middleditch Collection)



Railway, opened in 1873, initially as a local route. Subsequently it became the main line to England, although the original main line via Dalry remained as a relief route for passenger trains and a regular route for freight trains until the 1960s. Associated with this development was a goods yard at Kilmarnock station, where a 42ft turntable was installed. The Gatehead-Hurlford line, the 'Riccarton Loop', was opened in 1902, and this line was used mainly by goods and mineral traffic, Riccarton & Craigie station never being used regularly by passenger trains.

Six years after the formation of the company, the G&SWR opened its new main workshops at Kilmarnock, replacing the rather small premises at Cook Street, Glasgow. Although the engine shed at the station became increasingly inadequate, it was not until January 1877 that the company opened a new six-road shed on a green field site at Hurlford after it had been completed towards the end of the previous year, while the shed at the station remained as a servicing point until the 1960s. On opening, Hurlford shed had a complement of 44 locomotives, and this was to more than double with the passage of time.

Kilmarnock Works was situated just north of the station in the fork between the main lines to Glasgow and the line to Ayr via Barassie, some of this latter route being part of the original Kilmarnock & Troon Railway. In its existence under G&SWR ownership, the Works built a total of 392 locomotives for the company and had a capacity to repair, overhaul or rebuild 25 locomotives at any given time. By the turn of the century, machinery and equipment was becoming either worn out or obsolete and it was a relief when Barassie Works opened in 1901 to build and repair coaches and wagons, which work hitherto had also been undertaken at Kilmarnock. As time passed, fewer and fewer locomotives were built at Kilmarnock, new build being outsourced in the main to the North British Locomotive Company, and more and more time was spent on the repair/overhaul/rebuild/scraping functions. The last locomotives to be built at Kilmarnock Works were six of the Drummond '137' Class 4-4-0s, which were ex-works in 1914-5. The last locomotive to leave Kilmarnock Works in a rebuilt form, in 1922, was Robert

Whitelegg's 4-4-0 No.394 *Lord Glenarthur*, named after the company's chairman, only the second locomotive to be named by the G&SWR. This was the reconstruction of a distinguished locomotive, James Manson's 1897 4-4-0 No.11, the first four-cylindere locomotive in Great Britain. At its peak, Kilmarnock Works employed around 1,200 members of staff; approximately half that number transferred to Barassie Works. Kilmarnock Works continued to operate until closed by British Railways in 1967, in its later years most of its work being the scrapping of steam locomotives, a surprising number of those cut up being ex-LNER types, many of North British Railway origin. Incidentally, the first named locomotive was No.109 *Galloway*, a 2-4-0 specially designed for the G&SWR by Joseph Beattie of the London & South Western Railway and built by Beyer Peacock and Co, which served from 1858 to 1874, but which carried its name for only a short period. No.109 ended its days being based at Kilmarnock shed and being employed mainly on pilot duties to New Cumnock.

But not only did Kilmarnock enjoy the presence of the railway company's main workshops, there was a number of other locomotive builders. Pre-eminent amongst the private companies was the renowned and long-lived Andrew Barclay, Sons and Co. Limited, which proved to be the last locomotive builder in Scotland, and which previously traded under the successive names of Andrew Barclay, Andrew Barclay & Son, Andrew Barclay, Son & Co, operating from Caledonia Works. Other locomotive building companies in the town that existed at various times, some more successfully than others, were:-

Riverbank Works
Barclays & Co.

Britannia Works
Allan Andrews & Co.
Andrews, Barr & Co.
Barr, Morrison & Co.
Dick, Kerr & Co.
Dick, Kerr & Co. Ltd.
Kilmarnock Engineering Co. Ltd.

Townholm Works
Grant, Ritchie & Co.
Grant, Ritchie & Co. Ltd.

Vulcan Works

T. McCulloch & Sons Thos. McCulloch & Sons McCulloch, Sons & Kennedy Ltd.

Essentially, therefore, this means that taking into consideration the renaming of businesses, over the years from 1859 when Andrew Barclay produced the first locomotive to 1922, there were ten different non-railway owned locomotive building companies in Kilmarnock operating from five works.

The 1870s was a decade of high capital expenditure by the G&SWR. Not only did the company build Hurlford shed as mentioned, but it also built sheds at Ardrossan (four-road), Ayr (six-road), Dumfries (six-road) and Muirkirk (four-road), plus building St. Enoch station (13½ acres with six later twelve platform faces), with its associated hotel (200 bedrooms) – St. Enoch shed opened in 1884 – and rebuilding and enlarging Kilmarnock station to six platform faces, with the main platform, No.3, being 810 feet long.

Hurlford shed was, in the main, a goods and mineral train shed, but there was a fair amount of passenger work in local trains to and from St. Enoch, Largs, Ardrossan, Ayr and Darvel, these duties other than the Darvel duty being shared with other sheds, as well as piloting Anglo-Scottish expresses to New Cumnock or Dumfries. Goods and mineral train workings (these were not freight workings; it was in 1926 that the LMS issued an edict that henceforth the terminology of 'freight train' should be used) tended to be of relatively short distance, most not exceeding 40 miles and many less than 30 miles. Coal and other mineral trains were a mainstay and there was much working to and from the harbours at Ayr, Troon, Irvine and Ardrossan. Hurlford shed, regularly with almost 100 locomotives on its books (a known figure of 92 in 1913),

Laigh Milton Viaduct near Gatehead over the River Irvine, as seen upriver from the south. This four-arch viaduct opened in 1811 and had an active life of 35 years before being taken out of use when the Kilmarnock & Troon Railway was realigned on upgrading to standard gauge with edge rails. Restored in the 1990s, it is the oldest railway viaduct in the world still in existence. (Author)





had the highest allocation of locomotives during G&SWR days and it was only with the closure of St. Enoch shed in 1935 under LMS auspices and the transfer of locomotives from there to Corkerhill (opened in 1897) that the Glasgow shed then took over the mantle of having the largest allocation of any shed of G&SWR origin. The original 45ft turntable at Hurlford shed was replaced by a 60ft version in 1919, while the turntables at the station and the GB&K goods yard remained. For their workers, the G&SWR built 143 houses in four blocks (Blocks A, B, C, and D) at Barleith adjacent to the shed and these were razed to the ground soon after BR closed the shed in 1966. The company also built 132 houses at Bonnyton Square about half a mile from the station, one row backing on to the rear of Kilmarnock Works.

However, Hurlford shed might never have been built, and Kilmarnock Works would certainly never have been built, had certain mid-nineteenth century individuals had their expectations fulfilled. Those individuals were the powers-that-be, the Provost, Town Councillors and other wealthy businessmen, of the Royal Burgh of Sanquhar, situated 32 miles south of Kilmarnock and 26 miles north of Dumfries. In the late 1840s, the Sanquhar population savoured the prospect of the coming of this new method of transport and awaited in eager anticipation the passage of the necessary legislation through Parliament. When the Town Clerk announced that the Bill authorising the railway line had been passed by the legislature there was much rejoicing. The local expectation was that because Sanquhar was almost exactly halfway between Glasgow and Carlisle on the Glasgow & South Western Railway's main line – the halfway point of the coaching route was reckoned to be less than two miles south of the burgh – it was logical that the railway company would have to build its main workshops and engine sheds there. The substantial expanse of land necessary for this development was designated and financial arrangements entered upon. Those naive individuals, with no knowledge about or experience of either railway construction or operational matters, were entirely unaware of the importance of proximity to population density or of traffic volumes (in the case of

early developing railways either proven or projected) and subsequently they were to be sadly disappointed.

But that disappointment was still to come. The momentous day of 28th October 1850, the opening of the main line and the birth of the G&SWR, saw almost every inhabitant of the Royal Burgh of Sanquhar, including without exception all of the schoolchildren and their teachers, witnessing the first trains that served the Burgh and thus having the ability thereafter to boast for the rest of their lifetime - had they been so inclined - that they had seen railway history being made. However, with local expectations being denied, memories of that joyful occasion must in later years have been somewhat tempered.

The poignant story is that of Thomas Gibb, the Provost and owner of the Queensberry Hotel. The coming of the railway meant that his hotel business, having been very significantly reliant on passing coaching trade, foundered exceedingly quickly, and coaches and horses had all to be sold at a time when prices were extremely low, thus incurring substantial losses. It was only a few months after the opening of the line that Thomas Gibb was forced into retirement. There is surely a lesson here - be careful what you wish for!

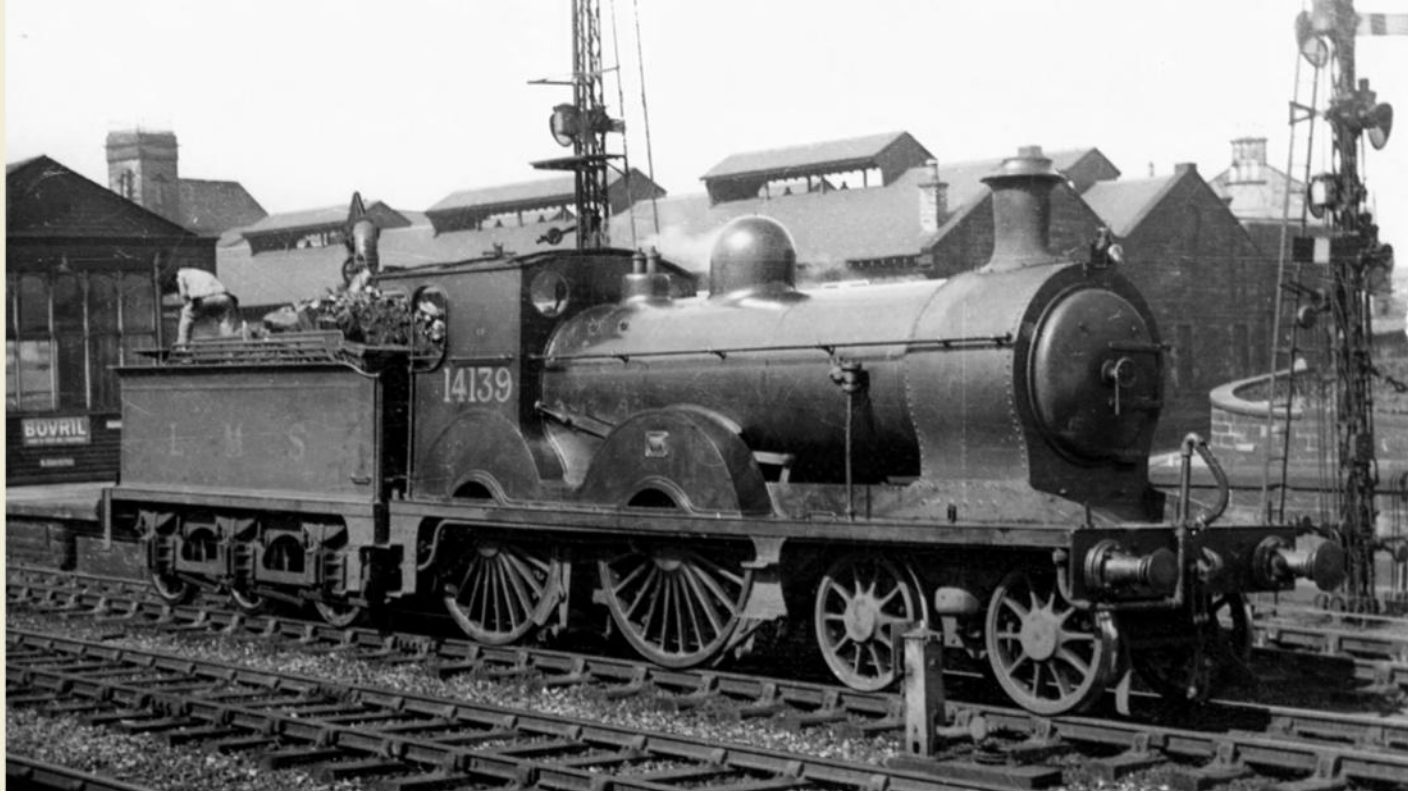
So, with that history behind it, what were railway operations like in 1922, the last year of the G&SWR's existence? Well, for a start Kilmarnock had an unique access to Glasgow, a situation quite unmatched for a town of comparable size situated 20 to 30 miles away from its major city.

Kilmarnock had as many as nine — yes, nine! — different routes to Glasgow, seven of which were used by timetabled local passenger trains. It is likely that the other two routes would enjoy passenger use on occasion as required, should a regular route be temporarily out of use for reasons such as track maintenance, signal failure or train breakdowns, or perhaps might be used by excursion or other special trains. Certainly all nine were used by goods and mineral traffic.

After leaving St. Enoch station, the line diverged at Port Eglinton Junction, the original Paisley and Glasgow Joint Line (opened 13th July 1840) running via Paisley

G&SWR 4-4-0 No.192, seen here on the turntable at Kilmarnock station, had a varied history. Built at Kilmarnock Works to a design of James Stirling, it was a member of the '6' Class and entered service in February 1875. In May 1896 it was transferred to the duplicate 'A' list and in July 1899 it was rebuilt by Manson to become, as No.192, the second member of the '191' Class, an outcome eventually to be the fate of fifteen others of the '6' Class. Duties performed were local passenger trains to and from Glasgow via Barrhead and via Dalry, Ardrossan, Largs, Ayr and Darvel, piloting express trains and during the night also goods trains as far as New Cumnock. Nowadays, there are no temperance hotels in Kilmarnock; indeed, a recent survey has shown that the ratio of public houses to heads of population is amongst the highest in Scotland!
(Ian Middleditch Collection)

Gilmour Street station and the later line (opened in 1885) via Paisley Canal station. The lines converged before Elderslie at Canal Junction. Beyond Elderslie, at Elderslie Junction, the lines diverged again, the original line to Dalry, opened on 12th August 1840 passing through Johnstone station, and the later relief line to Dalry, opened in 1905, through Johnstone North station. The lines converged again at Brownhill Junction north of Dalry, at which station the lines diverged once more. The original Glasgow to Ayr line, opened between Ayr and Dalry on 5th July 1840, ran southwards to Ayr via Irvine, where the lines diverged and from where a line ran to Crosshouse, where it converged with the shorter line which ran south eastwards from Dalry. From Crosshouse, the line ran on for two miles to Kilmarnock station. The Dalry to Kilmarnock section opened on 4th April 1843. Thus there were two possible routes from Glasgow to Elderslie, two more routes to Dalry, and from there two further routes to Kilmarnock, giving a combination of eight. The ninth route was the joint line with the Caledonian Railway via Barrhead, opened in 1873, which is the only route remaining today.



There is much of interest (and unseen!) in this photograph. The locomotive is sitting at the south end of Platform 4 at Kilmarnock station, the main up platform, and is taking water from the column that served Platforms 4 and 5. The track leading from Platform 5 can be seen behind the locomotive which is completely hiding the turntable beyond Platform 5. Further back, the original engine shed which served from 1843 to 1877 is prominent. Despite then losing its status when Hurlford shed opened, it remained in use as a stabling point until the end of steam. The two centre roads are visible in front of the locomotive. LMS No.14139 is a Hugh Smellie '153' Class 4-4-0 (a 'Big Bogie'), built at Kilmarnock and entering service in December 1886 as No.53. It was rebuilt in December 1922 by Robert Whitelegg in which condition it is pictured, painted in black. Withdrawal came in December 1934. (Ian Middleditch Collection)

The first Kilmarnock station was not at the end of the line of the Kilmarnock & Troon Railway, for it extended approximately 200 yards beyond the station to terminate adjacent to Kilmarnock House, the residence of the Duke of Portland, the builder and financier of the railway. Clearly, the Duke wanted his creature comforts by having ready access at his front door and not having to walk the short distance to the rudimentary station. This image was captured from Portland Road; the large building to the right, now the Procurator Fiscal's office and formerly the Sheriff Court, was the location of Kilmarnock House, long since demolished. The line passed through the site of the corner building on the left, now a dental practice, to the station about 100 yards behind the photographer. (Author)

These alternative routes gave rise to a somewhat incongruous situation. The lines from Kilmarnock to St. Enoch via Dalry and Paisley were in the up direction, and the line from Kilmarnock to Glasgow via Barrhead, the main line to England, was and still is in the down direction. So from the precincts of Kilmarnock station for more than a quarter of a mile to the Western Road bridge, lines originating at the same platform at Kilmarnock station and terminating at the same Glasgow station were running side by side parallel to each other, yet one was the up line and the other the down line!

All the Anglo-Scottish expresses, day and night, in both directions, made a stop at Kilmarnock, the only station on the G&SWR main line to Carlisle to enjoy this privilege, Kilmarnock being the first stop for up trains. However, on up express trains, in the main the stop was to pick up only, passengers from St. Enoch to Kilmarnock having to





These buildings in Bonnyton Road formed part of what was Andrew Barclay's Caledonia Works. The original building of 1847 was added to later by the building to the left; the new extension, originally having been the foundry, afterwards became the office accommodation for the company. Kilmarnock is proud of its railway heritage, as the long-term retention of the roof sign over the office block bears witness. (Author)

travel by a following local train. The Anglo-Scottish expresses were made up of Midland and Glasgow & South Western Joint Stock (M&GSWJ), headed by G&SWR locomotive power between Glasgow and Carlisle.

An analytical study of the G&SWR timetables in the July 1922 *Bradshaw* revealed fascinating information about the volume of

passenger services at Kilmarnock station. In a week, there was a total of 682 passenger trains which served Kilmarnock station. There being eight Sunday services, the average weekday number of passenger trains serving Kilmarnock was 112. Curiously, this figure of 682 was exactly the weekly number of trains which departed from St. Enoch

station, and with 680 arrivals per week at St. Enoch, it is thus established that as far as passenger trains were concerned, Kilmarnock was half as busy as St. Enoch. When the goods and mineral trains that passed through Kilmarnock are taken into consideration, it can be truly said that Kilmarnock station in 1922 was a haven for engine spotters - if such individuals existed in any numbers over a century ago!

Of these 682 services, 276 were local trains departing from and 270 local trains terminating at Kilmarnock, and 74 main line locals and 62 main line expresses stopping at Kilmarnock as they passed through. In total, these 682 trains travelled 24,847½ miles over G&SWR lines, joint lines and lines over which the G&SWR exercised running powers. This figure was made up of 5,029¼ miles by locals departing from and 5,433 miles by locals arriving at Kilmarnock, plus 7,223¾ miles and 7,161 miles respectively by locals and expresses stopping at Kilmarnock on their through journey.

The 682 trains had a total of 5,132 intermediate stops on their journey - this excludes the 136 Kilmarnock intermediate stops of the main line locals and expresses. This total comprised 1,805 stops for locals departing from and 1,865 stops for locals arriving at Kilmarnock, 675 stops before and 706 stops after Kilmarnock for locals passing through, and 37 stops before and 44 stops after Kilmarnock for express trains.

Recognising that each train has a departure and a destination station, in addition to the intermediate stops, the number of stations servicing Kilmarnock and elsewhere by the 682 trains was 6,632.

Services at Kilmarnock station in July 1922 are listed in Table One.

(To be continued)

Table 1 – PASSENGER TRAIN SERVICES AT KILMARNOCK STATION - JULY 1922

Time at Kilmarnock		Service/Route/Notes	Number of Trains per Week	Number of Intermediate Stops per Journey	Route Mileage
arrive	depart				
5.42 a.m.		4.10 a.m. Dumfries to Kilmarnock	6	3/-	58¼
	5.50 a.m.	Kilmarnock to Ayr arr 6.25 a.m.	6	-/2	15½
	5.55 a.m.	6.45 a.m. St. Enoch to Carlisle arr 11.30 a.m. via B	6	-/20	115½
	6.00 a.m.	Kilmarnock to Largs arr 7.23 a.m.	6	-/10	28
	6.00 a.m.	Kilmarnock to Darvel arr 6.30 a.m. Workers' Train	6	-/3	9
	6.25 a.m.	Kilmarnock to St. Enoch arr 8.00 a.m. via C, D, JN and PC	6	-/10	36
6.46 a.m.	TNRT	9.30 p.m. SCE St. Pancras to St. Enoch arr 7.30 a.m. via B Conditional stop Strathbungo	6	1/0	115½
	7.05 a.m.	Kilmarnock to Ayr arr 7.45 a.m.	6	-/7	15½
	7.15 a.m.	Kilmarnock to St. Enoch arr 8.46 a.m. via C, D, J and PGS Does not stop at Eglinton Street on Mondays	6	-/13 (12)	34½
	7.15 a.m.	Kilmarnock to Darvel arr 7.45 a.m.	6	-/3	9
	7.20 a.m.	Kilmarnock to Largs arr 8.33 a.m.	6	-/10	28
	7.25 a.m.	Kilmarnock to St. Enoch arr 8.33 a.m. via B Does not stop at Gorbals on Monday	6	-/4 (3)	24¼
7.42 a.m.		6.45 a.m. Ardrossan to Kilmarnock Except Mondays Connects at Irvine with 6.50 a.m. Ayr to St. Enoch (Irvine arr 7.16 a.m. dep 7.20 a.m.)	5	8/-	16¼
7.43 a.m.		7.15 a.m. Darvel to Kilmarnock	6	3/-	9
7.50 a.m.		7.10 a.m. Ardrossan to Kilmarnock Mondays only Connects at Irvine with 6.50 a.m. Ayr to St. Enoch (Irvine arr 7.16 a.m. dep 7.20 a.m.)	1	7/-	16¼
	7.52 a.m.	Kilmarnock to St. Enoch arr 8.45 a.m. via B Does not stop at Gorbals on Mondays	6	-/4 (3)	24¼
7.58 a.m.	8.10 a.m.	6.45 a.m. St. Enoch to Carlisle arr 11.30 a.m. via B	6	13/20	115½
8.17 a.m.	TNRT	11.45 p.m. SCE St. Pancras to St. Enoch arr 9.00 a.m. via B Breakfast Car Carlisle to Glasgow Conditional stops Annan and Strathbungo	6	1/0	115½
8.22 a.m.	TNRT	11.45 p.m. SCE St. Pancras to St. Enoch arr 9.05 a.m. via B Conditional stop Strathbungo Sundays only	1	1/0	115½
8.32 a.m.		7.45 a.m. Beith to Kilmarnock via D, I and C	6	5/-	15¾
8.35 a.m.		8.10 a.m. Darvel to Kilmarnock	6	3/-	9
8.39 a.m.		7.58 a.m. Ayr to Kilmarnock	6	6/-	15½
	8.40 a.m.	Kilmarnock to Ayr arr 9.20 a.m.	6	-/7	15½
	8.43 a.m.	Kilmarnock to Dalry arr 9.07 a.m.	6	-/3	11¼



Table 1 – PASSENGER TRAIN SERVICES AT KILMARNOCK STATION - JULY 1922 *continued*

Time at Kilmarnock		Service/Route/Notes	Number of Trains per Week	Number of Intermediate Stops per Journey	Route Mileage
arrive	depart				
8.45 a.m.	8.50 a.m.	6.20 a.m. Dumfries to St. Enoch arr 9.42 a.m. via B Does not stop at Gorbals on Mondays	6	12/5(4)	82½
	8.45 a.m.	Kilmarnock to Ayr arr 9.15 a.m. Sundays only	1	-/2	15½
	8.50 a.m.	Kilmarnock to Darvel arr 9.20 a.m.	6	-/3	9
	8.50 a.m.	Kilmarnock to Largs arr 10.10 a.m. Sundays only	1	-/7	28
	8.55 a.m.	Kilmarnock to Ardrossan Pier arr 9.42 a.m.	6	-/8	16½
9.15 a.m.		8.02 a.m. St. Enoch to Kilmarnock via B	6	13/-	24¼
9.40 a.m.		8.55 a.m. Ardrossan to Kilmarnock	6	7/-	16¼
9.47 a.m.		9.05 a.m. Ayr to Kilmarnock	6	7/-	15½
TNRT	10.02 a.m.	9.25 a.m. 1st and 3rd class RCE St. Enoch to St. Pancras arr 6.35 p.m. via B TC St. Enoch to Nottingham and Bristol	6	0/2	115½
10.06 a.m.		9.40 a.m. Darvel to Kilmarnock	6	3/-	9
10.18 a.m.	10.23 a.m.	7.00 a.m. Carlisle to St. Enoch arr 11.05 a.m. via B	6	20/1	115½
	10.27 a.m.	Kilmarnock to Ardrossan Pier arr 11.12 a.m. Except Saturdays	5	-/8	16½
	10.27 a.m.	Kilmarnock to Ardrossan arr 11.07 a.m. Saturdays only	1	-/7	16¼
	10.35 a.m.	Kilmarnock to St. Enoch arr 11.47 a.m. via B	6	-/13	24¼
	10.35 a.m.	Kilmarnock to Darvel arr 11.05 a.m.	6	-/3	9
	10.40 a.m.	Kilmarnock to St. Enoch arr 12.00 noon via C, D, JN and PC	6	-/10	36
	10.45 a.m.	Kilmarnock to Ayr arr 11.26 a.m.	6	-/7	15½
	11.55 a.m.	Kilmarnock to Darvel arr 12.25 p.m. Saturdays only	1	-/3	9
12.03 p.m.		10.30 a.m. St. Enoch to Kilmarnock via PC, JN, D and C	6	10/-	36
12.10 p.m.		10.30 a.m. Largs to Kilmarnock	6	10/-	28
12.11 p.m.		11.45 a.m. Darvel to Kilmarnock	6	3/-	9
	12.15 p.m.	Kilmarnock to St. Enoch arr 12.58 p.m. via B Wednesdays only	1	-/2	24¼
12.18 p.m.	12.30 p.m.	11.50 a.m. Catrine to St. Enoch arr 1.45 p.m. via B Saturdays only	1	2/13	37¼
12.22 p.m.		11.40 a.m. Ayr to Kilmarnock	6	7/-	15½
	12.22 p.m.	Kilmarnock to Ayr arr 1.02 p.m. Saturdays only	1	-/7	15½
TNRT	12.38 p.m.	12.00 noon 1st and 3rd class RCE St. Enoch to St. Pancras arr 9.15 p.m. via B TC St. Enoch to Manchester	6	0/1	115½
12.45 p.m.	12.50 p.m.	12.10 p.m. St. Enoch to Dumfries arr 2.50 p.m. via B	6	-/11	82½
12.52 p.m.		11.07 a.m. St. Enoch to Kilmarnock via PC, JN, D, I and C Saturdays only Workers' Train from Kilwinning	1	10/-	39¼
	1.00 p.m.	Kilmarnock to Darvel air 1.30 p.m.	6	-/3	9
1.06 p.m.		12.40 p.m. Darvel to Kilmarnock Saturdays only	1	3/-	9
	1.15 p.m.	Kilmarnock to Ardrossan arr 1.57 p.m. Except Saturdays	5	-/7	16¼
1.20 p.m.		11.45 a.m. St. Enoch to Kilmarnock via PC, J, D and C Saturdays only	1	12/-	35
1.30 p.m.	1.35 p.m.	10.10 a.m. Carlisle to St. Enoch arr 2.20 p.m. via B	6	20/1	115½
1.33 p.m.		12.20 p.m. St. Enoch to Kilmarnock via B Saturdays only	1	13/-	24¼
1.45 p.m.		12.32 p.m. St. Enoch to Kilmarnock via B Saturdays excepted	5	13/-	24¼
	1.45 p.m.	Kilmarnock to St. Enoch arr 2.58 p.m. via B	6	-/13	24¼
1.47 p.m.		12.55 p.m. Ardrossan to Kilmarnock	6	8/-	16¼
	1.47 p.m.	Kilmarnock to Ardrossan Pier arr 2.33 p.m. Saturdays only	1	-/8	16½
1.53 p.m.		1.03 p.m. St. Enoch to Kilmarnock via B Saturdays only	1	3/-	24¼
1.58 p.m.		1.15 p.m. Ayr to Kilmarnock	6	7/-	15½
2.11 p.m.		1.45 p.m. Darvel to Kilmarnock	6	3/-	9
	2.17 p.m.	Kilmarnock to Dalry arr 2.45 p.m. via C	6	-/3	11¼
	2.20 p.m.	Kilmarnock to Ayr arr 3.00 p.m. Wednesdays and Saturdays only	2	-/7	15½
2.22 p.m.		1.40 p.m. Ardrossan to Kilmarnock	6	7/-	16¼
2.25 p.m.		1.35 p.m. St. Enoch to Kilmarnock via B Saturdays only	1	4/-	24¼
	2.25 p.m.	Kilmarnock to Ardrossan arr 3.07 p.m. Saturdays only	1	-/7	16¼
2.35 p.m.	2.41 p.m.	2.00 p.m. St. Enoch to Carlisle arr 6.05 p.m. via B	6	-/19	115½
	2.45 p.m.	Kilmarnock to Darvel arr 3.15 p.m.	6	-/3	9
2.50 p.m.		1.20 p.m. St. Enoch to Kilmarnock via PC, JN, D and C Except Saturdays	5	11/-	36
2.52 p.m.		2.10 p.m. Ayr to Kilmarnock	6	7/-	15½
2.59 p.m.	3.03 p.m.	10.18 a.m. Leeds (Wellington) to St. Enoch arr 3.40 p.m. via B	6	2/0	115½
3.00 p.m.		1.20 p.m. St. Enoch to Kilmarnock via PC, JN, D and C Saturdays only	1	10/-	36
	3.10 p.m.	Kilmarnock to Ayr arr 3.50 p.m.	6	-/6	15½
	3.15 p.m.	Kilmarnock to St. Enoch arr 4.48 p.m. via C, D, JN and PC	6	-/11	36
	3.20 p.m.	Kilmarnock to Ardrossan arr 4.00 p.m.	6	-/7	16¼
3.22 p.m.		2.40 p.m. Ardrossan to Kilmarnock Saturdays only	1	7/-	16¼
3.55 p.m.		3.30 p.m. Dairy to Kilmarnock via C Saturdays only	1	3/-	11¼
3.56 p.m.		3.30 p.m. Darvel to Kilmarnock	6	3/-	9
	4.05 p.m.	Kilmarnock to St. Enoch arr 5.05 p.m. via B	6	-/8	24¼
	4.15 p.m.	Kilmarnock to Ayr arr 4.55 p.m.	6	-/7	15½
	4.15 p.m.	Kilmarnock to Darvel arr 4.45 p.m.	6	-/3	9
4.38 p.m.	4.45 p.m.	1.20 p.m. Carlisle to St. Enoch arr 5.30 p.m. via B	6	19/1	115½
4.42 p.m.		4.00 p.m. Ardrossan to Kilmarnock	6	7/-	16¼
	4.50 p.m.	Kilmarnock to Ardrossan arr 5.33 p.m.	6	-/7	16¼
4.53 p.m.		3.15 p.m. St. Enoch to Kilmarnock via PGS, JN, I and C	6	11/-	38¼
4.58 p.m.		4.15 p.m. Ayr to Kilmarnock	6	7/-	15½
5.06 p.m.		4.40 p.m. Dairy to Kilmarnock via C Except Saturdays	5	3/-	11¼
	5.07 p.m.	Kilmarnock to Ayr arr 5.45 p.m.	6	-/6	15½
	5.10 p.m.	Kilmarnock to St. Enoch arr 6.27 p.m. via B	6	-/13	24¼



PASSENGER TRAIN SERVICES AT KILMARNOCK STATION - JULY 1922 *continued*

Time at Kilmarnock		Service/Route/Notes	Number of Trains per Week	Number of Intermediate Stops per Journey	Route Mileage
arrive	depart				
5.17 p.m.	5.20 p.m.	4.30 p.m. St. Enoch to New Cumnock arr 6.06 p.m. via B Stops at Stewarton Saturdays only	6	4(5)/4	45½
5.25 p.m.		5.00 p.m. Darvel to Kilmarnock	6	3/-	9
	5.30 p.m.	Kilmarnock to Darvel arr 6.00 p.m.	6	-/3	9
	5.40 p.m.	Kilmarnock to St. Enoch arr 7.10 p.m. via C, D, J and PGS Except Saturdays	5	-/13	34½
	5.40 p.m.	Kilmarnock to St. Enoch arr 7.20 p.m. via C, D, J and PGS Saturdays only	1	-/14	34½
5.42 p.m.		4.17 p.m. St. Enoch to Kilmarnock via PC, J, D and C Except Saturdays	5	12/-	35
5.50 p.m.		5.00 p.m. Ardrossan Pier to Kilmarnock Except Saturdays	5	8/-	16½
5.50 p.m.		5.07 p.m. Ardrossan Pier to Kilmarnock Saturdays only	1	7/-	16½
5.52 p.m.		5.00 p.m. St. Enoch to Kilmarnock via B Except Saturdays	5	5/-	24¼
5.55 p.m.		5.20 p.m. Ayr to Kilmarnock	6	4/-	15½
TNRT	6.10 p.m.	5.30 p.m. St. Enoch to Carlisle arr 8.17 p.m. via B Tea Car St. Enoch to Carlisle	6	0/2	115½
6.15 p.m.	6.21 p.m.	5.35 p.m. St. Enoch to Carlisle arr 9.55 p.m. via B	6	- / 20	115½
6.22 p.m.	TNRT	9.50 a.m. 1st and 3rd class RCE St. Pancras to St. Enoch arr 7.05 p.m. via B Conditional stops Annan and Strathbungo.	6	1/0	115½
	6.30 p.m.	Kilmarnock to Darvel arr 7.00 p.m.	6	- / 3	9
6.40 p.m.		6.15 p.m. Darvel to Kilmarnock	6	3/-	9
	6.45 p.m.	Kilmarnock to Ayr arr 7.25 p.m.	6	-/7	15½
	6.50 p.m.	Kilmarnock to Ardrossan arr 7.30 p.m.	6	-/7	16¼
7.00 p.m.		6.00 p.m. St. Enoch to Kilmarnock via B	6	7/-	24¼
7.02 p.m.		5.32 p.m. St. Enoch to Kilmarnock via PC, J, D and C Except Saturdays	5	12/-	35
7.28 p.m.		6.45 p.m. Ayr to Kilmarnock	6	7/-	15½
7.30 p.m.	7.35 p.m.	5.25 p.m. Dumfries to St. Enoch arr 8.28 p.m. via B Except Saturdays	5	12/5	82½
7.35 p.m.		6.50 p.m. Ardrossan to Kilmarnock Except Saturdays	5	7/-	16¼
	7.40 p.m.	Kilmarnock to St. Enoch arr 9.07 p.m. via C, D, J and PGS Except Saturdays	5	- /13	34½
7.44 p.m.	7.50 p.m.	5.25 p.m. Dumfries to St. Enoch arr 8.35 p.m. via B Saturdays only	1	12/1	82½
7.50 p.m.		7.00 p.m. St. Enoch to Kilmarnock via B Wednesdays only	1	3/-	24¼
7.52 p.m.		6.25 p.m. St. Enoch to Kilmarnock via PGS, J, D and C	6	13/-	34½
7.55 p.m.		7.30 p.m. Darvel to Kilmarnock	6	3/-	9
7.56 p.m.		7.10 p.m. Ardrossan to Kilmarnock Saturdays only	1	7/-	16¼
	8.00 p.m.	Kilmarnock to St. Enoch arr 9.28 p.m. via C, D, J and PGS Saturdays only	1	-/13	34½
	8.05 p.m.	Kilmarnock to St. Enoch arr 9.15 p.m. via B Saturdays only	1	-/13	24¼
	8.25 p.m.	Kilmarnock to Darvel arr 8.55 p.m.	6	-/3	9
	8.30 p.m.	Kilmarnock to Ardrossan arr 9.10 p.m. Saturdays only	1	-/7	16¼
8.44 p.m.	TNRT	12.15 p.m. 1st and 3rd class RCE St. Pancras to St. Enoch arr 9.25 p.m. TC Bristol to St. Enoch } Conditional stop Strathbungo	6	1/0	115½
8.45 p.m.		8.05 p.m. Ayr to Kilmarnock Wednesdays and Saturdays only	2	7/-	15½
8.45 p.m.		8.00 p.m. St. Enoch to Kilmarnock via B Sundays only	1	-/-	24¼
8.55 p.m.	9.00 p.m.	8.15 p.m. St. Enoch to Dumfries arr 10.45 p.m. via B Saturdays only	1	-/8	82½
	9.00 p.m.	Kilmarnock to Ayr arr 9.38 p.m.	6	-/6	15½
	9.05 p.m.	Kilmarnock to St. Enoch arr 10.15 p.m. via B Except Saturdays	5	-/13	24¼
	9.05 p.m.	Kilmarnock to Darvel arr 9.35 p.m. Saturdays only	1	-/3	9
	9.07 p.m.	Kilmarnock to Ardrossan arr 9.47 p.m.	6	-/7	16¼
	9.20 p.m.	Kilmarnock to St. Enoch arr 10.55 p.m. via C, D, J and PC Saturdays only	1	-/12	35
9.25 p.m.		8.10 p.m. Largs to Kilmarnock Sundays only	1	7/-	28
9.28 p.m.		8.45 p.m. Ardrossan to Kilmarnock	6	7/-	16¼
9.32 p.m.		8.20 p.m. St. Enoch to Kilmarnock via B	6	13/-	24¼
9.40 p.m.		9.15 p.m. Darvel to Kilmarnock	6	3/-	9
9.40 p.m.		9.05 p.m. Ayr to Kilmarnock Sundays only	1	2/-	15½
9.45 p.m.		9.05 p.m. Ayr to Kilmarnock	6	6/-	15½
9.48 p.m.	9.55 p.m.	7.45 p.m. Dumfries to St. Enoch arr 11.00 p.m. via B	6	12/8	82½
TNRT	9.57 p.m.	9.20 p.m. SCE St. Enoch to St. Pancras arr 7.25 a.m. via B Except Saturdays	5	0/2	115½
TNRT	9.57 p.m.	9.20 p.m. SCE St. Enoch to St. Pancras arr 7.25 a.m. via B Sundays only	1	0/3	115½
10.25 p.m.		10.00 p.m. Darvel to Kilmarnock Saturdays only	1	3/-	9
10.27 p.m.		9.30 p.m. St. Enoch to Kilmarnock via B	6	6/-	24¼
	10.35 p.m.	Kilmarnock to Darvel arr 11.05 p.m. Saturdays only	1	-/3	9
10.42 p.m.		9.25 p.m. St. Enoch to Kilmarnock via PGS, JN, D and C Stops at Montgreenan and Cunninghamhead Saturdays only	6	9(11)/-	35½
11.12 p.m.		10.30 p.m. Ardrossan to Kilmarnock Saturdays only	1	6/-	16¼
11.20 p.m.		10.45 p.m. Ayr to Kilmarnock Saturdays only	1	3/-	15½
TNRT	11.22 p.m.	10.45 p.m. SCE St. Enoch to St. Pancras arr 7.50 a.m. via B Except Saturdays	5	0/0	115½
TNRT	11.22 p.m.	10.45 p.m. SCE St. Enoch to St. Pancras arr 7.50 a.m. via B Sundays only	1	0/0	115½
TNRT	11.52 p.m.	11.15 p.m. SCE St. Enoch to St. Pancras arr 8.57 a.m. via B Saturdays only	1	0/1	115½

Key RCE Restaurant Car Express SCE Sleeping Car Express TC Through Carriage(s) TNRT Time Not Recorded in Timetable

Route B Barrhead C Crosshouse D Dalry I Irvine J Johnstone JN Johnstone (North) PC Paisley (Canal) PGS Paisley (Gilmour Street)

Intermediate Stops – Figures before and after the slash indicate the number of intermediate stops before and after Kilmarnock. Figures in brackets indicate the number of intermediate stops on the day of the week when an additional stop was made or when a normal intermediate stop was not made. A dash before the slash indicates that there were no intermediate stops before Kilmarnock because the train departed from Kilmarnock. A dash after the slash indicates that there were no intermediate stops after Kilmarnock because the train terminated at Kilmarnock. The entry of "0" before or after the slash indicates that there were no intermediate stops before or after Kilmarnock in respect of a through train for which the Kilmarnock stop was in itself an intermediate stop.

For purposes of this statistical analysis, in respect of Anglo-Scottish Dalry expresses between Glasgow St. Enoch and Leeds Wellington/London St. Pancras, Carlisle is treated as the English terminus/departure station, as Carlisle was the extent of haulage by G&SWR locomotives.





Time 9.54am: The first frame of the morning to be fired-off was a pleasing 'going away' view of Class 45/0 No.45 058 (ex-D97) approaching Ryecroft Junction with a block tanker train from the Sutton Park direction. As per regulations, the guard can be seen riding in the rear cab of the 'Peak'. Based on Michael's notes, the train was apparently formed mainly of bogie tankers, although the leading tank is clearly a two-axle type. Based on WTT information, the service may well have been 6M31, the 03.00 MSSuX AIR COY (Y) from Ripple Lane to the Shell terminal at Rowley Regis (arr. 9.25am), which was booked through Ryecroft at 08.37, but may have been running late due to the adverse weather conditions. The service, which was booked for banking assistance up Soho bank on the Soho Road line, conveyed oil from the Thames Haven refineries, but could alternatively terminate at Wednesbury Patent Shaft Steelworks (arr. 8.53am) if need be. The routing northwards from London for these services was usually by way of the Midland Main Line from Cricklewood (where Eastern Region traction would hand-over to London Midland power) to Wigston South Junction, about three miles south of Leicester, from where they then headed westwards via Nuneaton and Water Orton to gain the Sutton Park line.

Back in the 1970s Ryecroft Junction, Walsall, was a busy freight 'hotspot' producing a wonderful variety of trains, traffic and traction throughout the day and night. The late, and respected, photographer Michael Mensing made a number of visits to this location during this decade and a few years previous to his sad passing in December 2014, at the age of 80, I managed to acquire from him print copies of a good selection of his images taken in my native home region of the Black Country, in the West Midlands

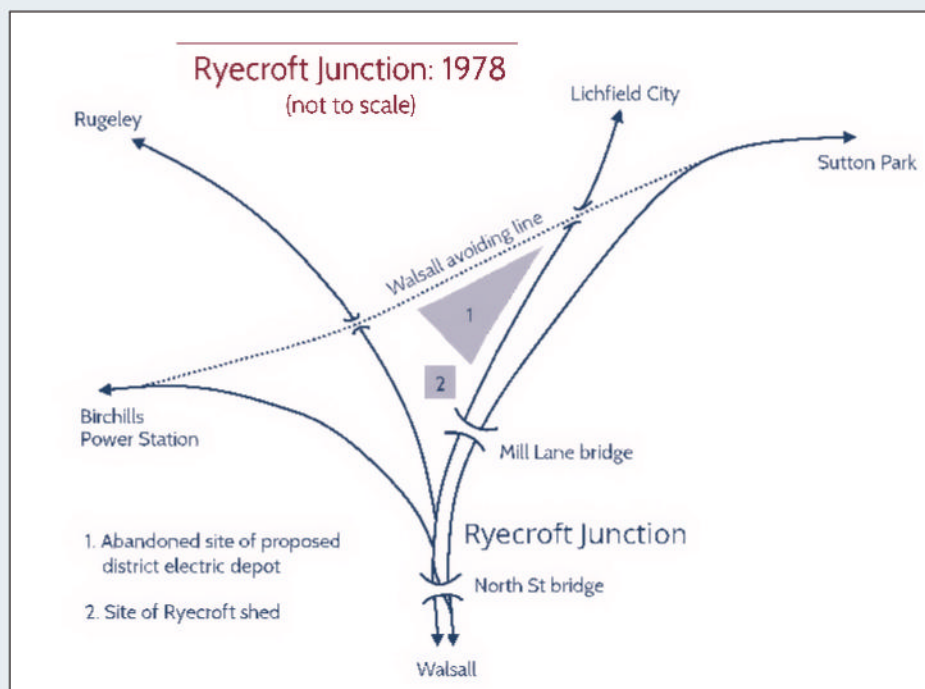
A WINTER'S MORNING AT R

It has now been over a decade since the passing of renowned railway photographer **MICHAEL MENSING**. To mark this, and as a small appreciation of his work, **DAVID J. HAYES** has compiled this feature based around pictures in his collection which Michael took one morning at this former freight-only location in the West Midlands.

One such visit to Ryecroft took place on the bitterly cold, but sunny, morning of Friday 20th January 1978 when Michael took up his position, just north of the junction, on the Mill Lane road bridge spanning both the Lichfield and Sutton Park lines radiating from the junction (see map). During this particular visit, Michael was rewarded with eight freights, most nicely lit, in snowy conditions, three of which turned up in five minutes! These freights consisted of three block tanker trains, each hauled by representatives of Classes 25, 37 and 45, three loaded steel

services producing Classes 31, 46 and 47, an empty Class 47-hauled Merry-Go-Round (MGR) working and a motley consist of two-axle open wagons hauled by a Class 25.

Unfortunately by this date, as can be seen from the accompanying images, the use of four-character alpha-numeric headcodes had been abolished by British Rail (BR) some two-years earlier, in January 1976, thus making train identification more difficult. The headcode blinds of locomotives had either been wound to display '0000' (or something similar) or the headcode panels themselves had been





The light had dipped somewhat by the time Michael took this picture at 10.21 which was of Class 25/3 No.25 260 (ex-D7610), appropriately fitted with miniature snowploughs, taking the Sutton Park line with a motley assortment of approximately 40 two-axle open wagons plus a brake van. As can be seen, the Type 2's headcode blind has been wound to display '0000', which was common practice following the discontinuation of four-character headcode displays in January 1976. The Class 25 may have been operating as part of a Departmental diagram from Bescot, possibly to Area Civil Engineers' or Divisional Civil Engineers' instructions, the wagons being on a positioning move in readiness for the forthcoming weekend's engineering programme, which might see them being used for taking away spoil or spent ballast from an engineering site. Other such workings to be seen at Ryecroft during the 1970s included ballast jobs from Nuneaton to ballast concentration points located in the West Midlands, such as at Bushbury and Wednesbury, where the loaded ballast wagons were stabled in readiness for weekend engineering works.

RYECROFT IN JANUARY 1978

given the 'domino' effect (black-out, but incorporating two white marker dots lit from behind) or even replaced completely with sealed marker lights.

With regards the images, Michael made brief notes on the reverse of each print about the subject matter, which in addition to the date also included the

time the picture was taken. Therefore, where editorially possible, the pictures accompanying this feature are presented in the order in which they were taken, thus producing a timeline spanning 9.54am to 11.09am, with a detailed description for each image forming the main body of text. Based on the basic information provided

by Michael and cross-referencing it with official Working Timetable (WTT) and Trip Notice information, the accompanying table, covering a three-hour period from 9.00am to 12 noon, might give a plausible clue as to what some of the trains may have been. The other workings contained in this table are discussed later.

At 10.30 Michael fired off this shot which appeared in the shape of Class 47/0 No.47 109 (ex-D1697) with a second steel train from the Lichfield direction, formed of around a dozen or so bogie bolsters plus a brake van. The load this time appears to have been mainly that of square billet, although at least one wagon in the formation is laden with beams/girders. The plot of land behind the train was slowly beginning to return back to nature, having been prepared in 1962 in readiness for the construction of a new District Electric Depot (for servicing electric units), but which never came to fruition. Today it is known as Mill Lane Nature Reserve.





Time 10.46am: The fifth freight of the morning to be captured on film for posterity was that of a 'split-box' Class 37 taking the Lichfield line with a block tanker train formed of ten bogie 100-tonners. The sun was back out in force, Michael making good use of the opportunity by recording this particular moment in colour, the low winter backlighting adding texture to the scene and showing to good effect the lovely crisp morning light. The plot of land partially visible to the right, situated in the 'V' formed by the Cannock and Lichfield lines, was once part of the site of Ryecroft depot, which closed to steam in June 1958, but survived another decade after that to service diesels and multiple units. The shed was demolished in 1970. The locomotive in charge of the northbound tanker train is believed to have been No.37 080 (ex-D6780), a Thornaby-based engine at the time, which may imply that this was an empty working returning to, perhaps, Teesport and possibly running as a special, as there was no such working actually shown in the relevant WTT covering this period. Teesport, however, in previous years during the 1970s had produced trains at Ryecroft running to and from such Black Country destinations as Rowley Regis, Wednesbury's Patent Shaft Steelworks and the uber-modern new Tipton Gasworks, although the latter of these, situated between Dudley Port and Tipton on the Stour Valley main line, closed in 1975 after a production run of just a decade due to the discovery of natural gas in the North Sea.



ABOVE: With the time now a little after 11.00am, things were about to get even busier with three freights turning up in quick succession, starting with Class 25/3 No.25 322 (ex-D7672), with 'domino dot' headcode panel, descending from the Sutton Park line with a raft of twenty two-axle tanker wagons resembling a giant millipede! This may have been an additional working from Washwood Heath to Shrewsbury conveying oil/petroleum products from the Esso facility at Bromford Bridge to the Abbey (Esso) terminal and possibly running out of course as a special brought about by the inclement weather. The booked train by this date usually ran on a weekly basis, departing as 6J33, the 18.42 MO COY from Washwood Heath to Coleham which, following a crew change at Walsall (19.22-19.24), travelled over the Pleck-Darlaston chord to reach Wolverhampton and thence the line to Shrewsbury.

It used to travel via Wednesbury and Princes End, with a call being made at Wednesbury to detach traffic for onward delivery to the diminutive Esso terminal at Priestfield, situated on the by now fragmented freight-only former GWR route (later re-opened in May 1999 as

stage one of the Midland Metro).

Clearly visible in the background is a bridge spanning the tracks of the former South Staffordshire Railway's Lichfield line. The bridge once carried the Midland Railway's Walsall avoiding line. This closed in May 1967, by which time its only traffic would have been that of coal to the nearby Birchills Power Station and the return empties. The 'avoider' once afforded direct through running to and from the Sutton Park line axis and Wolverhampton, but such through movements were rendered impossible in 1964 when the trackbed just west of Birchills Power Station was severed in September that year by construction of the M6 Motorway.

BELOW: Concluding this burst of freight activity at 11.09 is the appearance of Class 46 No.46 004 (ex-D141) with another block train consignment of steel from the Lichfield direction, the third such working in a little over an hour. The train this time appears to be formed



of around twenty well-loaded bogie bolsters (again with a brake van bringing up the rear) with yet more steel for one or more of the Black Country steel terminals or industrial sites. Such locations in 1978 consisted of Brierley Hill, Great Bridge, Wednesbury, Wednesfield (Ductile Steel and Weldless Steel Tube), Wednesfield Road Goods and Wolverhampton.

A working such as this, if bound for, say, Brierley Hill, might make detachments at Wednesbury for Wednesbury Steel Terminal, or for tripping to Wolverhampton Steel Terminal, and also at Great Bridge. Likewise, if heading for Wolverhampton, traffic could be detached at Wednesbury for its steel terminal and/or for forwarding to Great Bridge and Brierley Hill. In addition, there were also the three major steelworks then still to be found in the region: Spring Vale (Bilston), Patent Shaft (Wednesbury) and Round Oak (near Brierley Hill), although all three of these would be consigned to history within five years, each closing in April 1979, June 1980 and December 1982 respectively.

This was the last picture to be taken at Ryecroft that morning, thus bringing to a satisfying conclusion what was, for Michael, a most rewarding winter's morning photography at this once busy freight location.

Table synopsis

The table accompanying this article shows what was booked to be seen at Ryecroft Junction during a three-hour period, from 9.00am to 12 noon, on the date of Michael's visit in January 1978. However, what was booked to run and what actually *did* appear could vary quite a bit from what was shown in the official WTT and local Trip Notice, as certain services, especially trips and Conditional workings, could be cancelled or amended at short notice to suit customer demand or traffic fluctuations. Also, in addition to what was tabulated, specials frequently turned up and certain local trips could appear on an *ad hoc* basis, operating 'as and when required' or 'as instructed by Control', especially those associated with coal traffic, as touched upon later.

The table details 21 booked movements during a three-hour period of which there were eighteen freights, although a couple of these were trips (8T26 and 8T80) that would have appeared twice during this timeframe. It will also be seen that there were between six and eight booked movements per hour. The freights themselves included a steel service from Scunthorpe to Wednesfield Road and the return empties; traditional mixed wagonload freights to and/or from Bescot, Corby, Tinsley and Toton, a Freightliner from Mold Junction (ex-Holyhead) to Birmingham Lawley Street Freightliner Terminal and three MGR workings either to/from Daw Mill, Kingsbury and Littleton and Ironbridge and Rugeley power stations. There was also a traditional coal service from Washwood Heath Yard to Garston Docks conveying shipment coal for Ireland. This was booked for electric haulage from Walsall, one of several freights then still booked for a change of traction from diesel to electric haulage in the station environs.

One of the services shown in the table

Ryecroft Junction. Booked movements as of Friday 20th January 1978 Timeline: 09.00 to 12.00

Train	Service/Movement Details	Time
7M12	05.28 MWFO COY Scunthorpe to Wednesfield Road Goods (arr. 09.37)	09.02
4G66	06.46 SSuX AIR FLR Mold Junction to Birmingham Lawley Street FLT	09.12
6G58	08.18 SSuX AIR ETY MGR Ironbridge Power Station to Daw Mill Colliery	09.21
8M34	06.10 SSuX Tinsley to Bescot Up Yard South End (arr. 09.52); traditional mixed wagonload freight	09.27
8E16	09.30 SSuX Bescot Down Yard to Tinsley; traditional mixed wagonload freight	09.41
8G55	08.08 MSSuX Toton to Bescot Up Yard (arr. 09.51); traditional mixed wagonload freight	09.41
5G11	08.51 FO AIR ECS Derby Etches Park to Oxley CM&EE Department (arr. 10.13)	09.50
6G43	09.05 SSuX AIR MGR Kingsbury Sidings to Ironbridge Power Station (coal ex-Baddesley or Birch Coppice collieries)	09.56
8T26	10.00 SSuX (Class 25) Bescot Up Yard to Bloxwich (arr. 10.25)	10.10
8G93	06.10 MSSuX Corby to Bescot Up Yard (arr. 10.58); calls at Walsall Freight Terminal (10.19-10.46)	10.15
8T34	10.05 SSuX (Class 25) Lichfield City to Bescot Up Yard (arr. 11.01); calls at Walsall (10.31-10.51)	10.25
8F05	10.15 MTWFO COY ETY Spring Vale Steelworks to Wellingborough; empty iron concentrate	10.45
0T80	10.00 WFO (Class 25) LE Saltley Holding Sidings to Norton Junction Bescot DES (arr. 11.00); reverses direction. Works 8T80 (see 11.40 & 11.58 timelines)	10.48-10.50
8T74	10.00 SSuX (Class 25) Washwood Heath Up Yard to Bescot Up Yard (arr. 11.05); may call 'as required' at Fort Dunlop's Sidings	10.55
0Z00	11.00 MSSuX LE Bescot Up Yard to Derby St. Mary's Yard; loco(s) off 8G55 (see 09.41 timeline)	11.10
8T26	10.55 SSuX (Class 25) Bloxwich to Bescot Up Yard (arr. 11.20)	11.10
6T94	10.40 SSuX (Class 47) AIR ETY MGR Rugeley Power Station to Littleton Sidings (arr. 12.00)	11.20
7E74	11.00 MWFO ETY Wednesfield Road Goods to Scunthorpe, balance of 7M12 (see 09.02 timeline)	11.34
8T80	11.30 WFO (Class 25) Norton Junction Bescot DES to Bordesley Yard (arr. 13.15); runs-round at Walsall. Conveys 'crippled' wagons for attention at Tyseley C&W Department	11.40
8F27	11.11 MWFO Washwood Heath Yard to Garston Docks; shipment coal for Ireland. Booked for electric haulage from Walsall station (D-E 11.54-12.10)	11.51
8T80	11.30 WFO (Class 25) Norton Junction Bescot DES to Bordesley Yard (see 11.40 timeline)	11.58

Abbreviations AIR (Air-braked service). CM&EE (Chief Mechanical & Electrical Engineers). C&W (Carriage & Wagon). COY (Company train). D-E (Diesel to Electric). DES (Down Empty Sidings). ECS (Empty Coaching Stock). ETY (Empties). FLR (Freightliner) FLT (Freightliner Terminal). LE (Light Engine). MGR (Merry-Go-Round train).

worthy of a detailed mention is the 8F05 empty iron concentrate service from Bilston's Spring Vale Steelworks returning to Wellingborough. An uncredited and uncaptioned picture of this working appears on the front cover of the 1975 Bradford Barton book title *Diesels in the West Midlands & Central Wales*. The image shows the train passing through Coseley, on the Birmingham to Wolverhampton (Stour Valley) main line, with Spring Vale Steelworks looming in the distance. The iron concentrate was a by-product of sand and gravel quarrying operations of the middle Nene Valley at Ringstead, Rushden and Thrapston, the mineral containing a higher iron yield than that of the traditional ores once extracted in the Wellingborough area, thus making it more favourable with the steel industry. In addition to the loaded train to Spring Vale (8G87), there used to also be a weekly 8J87 ThO COY movement of iron concentrate from Wellingborough to Croes Newydd, Wrexham, for Brymbo Steelworks. This appears to have ended by 1978, but had also passed through Ryecroft Junction by running in the same path as that of 8G87, the regular MTWFO COY from Wellingborough to Spring Vale train as far as Pleck Junction.

Interestingly, also around this time in the late 1970s there was a movement of iron ore from a re-activated former Oxfordshire Ironstone Company site at Wroxton (closed in September 1967), which was also being moved through Ryecroft. The iron ore was loaded on to rail at Banbury for haulage to British Steel Corporation (BSC) plants at Spring Vale and Shelton, the service to North Staffordshire being booked for a locomotive change to electric haulage at Walsall station around midnight. A brief news item about this reinstated traffic appeared in the October 1975 issue of *Modern Railways* and was accompanied by a BR publicity image of Class

47/0 No.47 109 (also featured in this article) about to depart Banbury with 8L12 to BSC Shelton. The letter 'L' in the headcode implies that it was operating as a special within the London Midland Region.

In addition to what has already been mentioned, there was an empty coaching stock movement from Derby Etches Park to Oxley, plus several local trips and light engine movements. The trips included duties to and/or from Bescot, Bloxwich, Bordesley, Lichfield, Littleton, Norton Junction (Bescot DES), Rugeley Power Station and Washwood Heath, some of which also called elsewhere, such as Fort Dunlop, Tyseley and Walsall. The Bloxwich diagram (8T26) would have delivered zinc to the smelter works, whilst the Lichfield duty (8T34) served the works of Rom River, which was accessed from the Trent Valley section of the West Coast Main Line and received deliveries of rod/wire-in-coil. The twice-weekly WFO trip from Norton Junction's Bescot Down Empty Sidings (8T80) dealt mainly with wagons requiring the attention of the Carriage & Wagon Department at Tyseley.

An even more detailed account of the railway activity once to be seen at Ryecroft Junction during the 1970s can be found in my two-part 'Ryecroft Reminiscences' article, which was published in the August and October 2017 issues of *Backtrack* and also features more of the splendid camera work of Michael Mensing.

Finally, a sincere thank you to my good friend Andy Williams for providing the map and scanning the images accompanying this feature and to the Railway Correspondence & Travel Society for very kindly giving its consent for me to use Michael's material. (The photographic archive of the late Michael Mensing is now in the custodianship of the RCTS.)



No.D1509 before the experiments started is seen passing Brookman's Park in original condition with a southbound Class 4 freight service on 27th April 1963, just over two months since it entered traffic.

(Class 47 Preservation Project Archive)

Individual British Railways Brush Type 4 locomotives were subjected to a myriad of experiments over the years. One little-known set of tests are those carried out on No.D1509 between 1964 and 1966. These involved fitting No.D1509 with amber route indicators and flat beam headlamps for use in fog. The acquisition of two pictures of No.D1509 fitted with the equipment prompted further research to uncover the full story of the trials and their outcome.

These tests originated at the Motive Power Committee meetings of February and March 1962 on the problem of headcode glare in fog. There had been a three-way collision at Connington on 15th December 1961, involving amongst others 'Deltic' No.D9012 *Crepello*. A contributing factor was glare from the headcode on what was a foggy night. Col. McMullen, who led the accident inquiry, said in his report published on 31st May 1962 that several drivers had complained about the problem and that the BR Chief Mechanical Engineer (CME), J. F. Harrison was taking steps to overcome the it.

BR's Mechanical Engineering Committee was asked to investigate the problem. As a first step Harrison was asked to reduce the wattage in the bulbs on the 'Deltic' headcode panel. The British Transport Commission's Chief Operating Officer G. F. Fiennes wrote to him on 8th March requesting this happen. Assistant CME E. S. Cox responded a week later on 15th March saying such a trial should be easy to arrange, though it would be in normal weather conditions. He asked if Fiennes wanted a demonstration in a siding with two or more locomotives having bulbs of different wattages, or a modified locomotive operating in service.

Replying on 20th March, Fiennes said that if we accept the problem only arises in fog, then the existing lighting should remain unaltered, so negating the need for sighting trials. The next step would be to reduce the lamp's wattage using either a dimmer switch or double filament bulbs. This could be carried out on several locomotives and trials conducted in suitably foggy weather, so confirming if the alteration overcame the problem of glare.

The matter was also discussed by the Motive Power Committee on 30th March when it was agreed to fit two or three locomotives with reduced wattage bulbs, either by using a dimmer switch or double filament bulbs with a wattage not lower than 15 Watts. The Traffic Conference agreed to these tests asking that the tests also be carried out in normal weather to establish the minimum strength of lighting needed operationally, whilst still providing an adequate warning of an approaching



HEADLAMPS AND HEADCODES EX

BY SIMON LILLEY

train. A further BTC committee, the Locomotive Standards Committee, was told on 5th July that Harrison had advised that as a first step 15 Watt lamps would replace 25 Watt ones and the effect of them would then be tested. Dimmer switches were to be used as a last resort given the added complication and extra maintenance required.

The reduced lamps were indeed fitted in several 'Deltics' towards the end of October and the Eastern Region Chief Mechanical & Electrical Engineer C. Scutt wrote to Cox on 23rd November advising him that the Line Manager Great Northern had told him that these reduced wattage lamps had not caused operating staff any problems. As a result Cox asked Scutt on 4th December to fit all 22 'Deltic' locomotives with these reduced wattage lamps to obtain further experience. He also said he would advise the Chief Inspecting Officer Col. McMullen so he could check for possible glare during fog conditions.

An accident between Edinburgh and Glasgow, when several track staff were struck by a diesel multiple unit, led to further discussions regarding locomotive visibility. After a meeting with the Ministry of Transport in March 1963, Harrison agreed to try orange filters on locomotive headcodes to see if they reduced glare without the need to use the reduced wattage lamps.

Several months elapsed before Cox wrote to Fiennes on 7th June reporting that he was arranging a trial using amber glass on the headcodes. In addition he was talking to Netherlands Railways about their flat beam headlights and their specification.

Fiennes wrote to a number of Regional officials about this subject on 12th August. Given the conflicting issues of visibility against reducing glare, he felt there needed to be tests undertaken with a

locomotive and multiple unit. Both should be fitted with flat beam headlights and amber glass on the route indicator. The Eastern Region Movements Officer wrote back three days later, suggesting a 'Deltic' and an Edinburgh-Glasgow DMU. The 'Deltic' would need to be tested on the ECML. The Scottish Region's Operating Officer pointed out that the Edinburgh-Glasgow DMUs had only one indicator slot which carried a stencil. The London Midland Region's General Manager was concerned that amber glass could be mistaken for a yellow signal. The North Eastern Region's Operations Manager supported tests, adding that a 'Deltic' should be tested on the ECML.

The initial thoughts that a 'Deltic' should be the subject of the experiment were soon discounted, as one could not be made available for trials given their intensive diagrams. E. S. Cox wrote to Fiennes on this on 23rd August. He had arranged for a Brush Type 4 (later Class 47) to be used instead and No.D1509 was fitted out for the experiment at Doncaster Works. The aim was to reduce glare from the illuminated headcode panel, something that had been identified as a problem with the Brush Type 4s. The headlamps were two Lucas flat beam lights using 44 Watt bulbs, broadly similar to those used in The Netherlands. They would be fitted externally and not recessed into the front end.

Fiennes agreed with Cox's proposal on 27th August, adding that the Brush Type 4 should be fitted at both ends to make conducting the tests easier. He then advised the various Regional General Managers on 7th October that a Brush Type 4 would be used instead of a 'Deltic'. As the Edinburgh-Glasgow DMUs did not have four character route indicators, a Trans-Pennine unit would be used instead.

The railway unions were also expressing concern about the problem of glare in foggy weather and the National





PERIMENTS WITH A BRUSH TYPE 4

Union of Railwaymen (NUR) General Secretary Sidney Greene wrote to BR's Chief Industrial Relations Officer C. S. McLeod on 25th September. The union was concerned about this issue and asked if the BR Board would consider fitting fog lights.

For the initial static trials Cox was unable to send a representative, so there were certain details he needed confirming and these he laid out to the Mechanical Engineer (Design) at Doncaster T. B. Maddison on 4th November. No D1509 should be fitted with the amber headcode glass and fog lights at both ends. He also wanted to know if the fog lights would be fitted permanently, or just plugged in for the demonstration.

Harrison was given an update on the initial static tests by Maddison on 11th November. These had been done

at Doncaster four days previously. Fog was simulated by blowing steam across the front of the locomotive and checking the clarity of the headcode characters from the driver's seat. Checks were also done in clear conditions. The headcode was illuminated by combinations of 25W amber, 25W yellow, 40W amber and 40W yellow electric lamps and a yellow plastic filter screen placed in front of the headcode panel glass. The least amount of glare in simulated fog was with the 40W yellow lamps. It was found there was insufficient illumination with either of the 25W coloured lamps.

Two Lucas flat beam lights using 44 Watt bulbs were fixed on a mounting board and clipped to the front lamp irons. In simulated fog considerable glare was noted with the lamps on. In clear conditions the fog lamps gave effective

illumination. At ground level from 50 yards away and more in clear conditions the headcode characters were most clear and free from fluorescence with the 40W yellow lamps. In fog the glare from the lamps would help making the locomotive's approach more noticeable to staff.

Maddison was also able to confirm that for the official demonstration both ends of the locomotive would be fitted and that 40W yellow, amber and clear lamps would be used. The fog lamps would be mounted on boards and supplied using batteries at both ends of the locomotive.

The new Chief Operating Officer L.W. Ibbotson wrote to Harrison on 19th November. His main concern was how the equipment operated in service. The main questions to be answered were whether the amber glass on the indicator box eliminated or materially reduced glare in fog. Did the amber glass materially affect the clarity of the route indicator characters or reduce its effectiveness as a warning of the locomotive approaching? What wattage lamp should be used? He asked about the value of the headlights in both clear and foggy weather to staff adjacent to the line and did the headlights have any adverse effects on signal visibility at close range. Lastly, were there any adverse effects from the headlamps when drivers in the opposite direction were trying to sight signals or judge stops? Cox replied the next day saying the equipment had now been fitted and a demonstration could be arranged with suitable notice.

The experimental equipment on No.D1509. The locomotive is about to work 'The Master Cutler' Pullman service from Sheffield Midland to King's Cross. The headlamps above the buffers are on and clearly visible. The locomotive headcode has the amber filter on. Clearly the locomotive's steam heating equipment is also working well.
(Class 47 Preservation Project Archive)



Key Regional officials, the CM&EE, Chief Civil Engineer and the Movement Officers at the North Eastern, Eastern and London Midland Regions were given an update on the trials by Harrison, Ibbotson and the Chief Civil Engineer Mr. A. N. Butland. They explained that a Brush Type 4 had now been fitted and the aim of the tests was to establish whether the amber glass on the indicator box eliminated or materially reduced glare in fog. This was followed up by a further memorandum from the three saying that C. S. Scutt, the Eastern Region CM&EE, was to take charge of the trials involving No.D1509.

A series of tests was carried out on the ECML between Knebworth and Stevenage on the night of 16th February 1964 with a series of runs in both the up and down directions. Their purpose was as per the memoranda from December. During the tests, No.D1509 was equipped with a range of different bulbs in the headcode panel: 25 and 40 Watt yellow with a normal clear glass indicator, 25 and 40 Watt amber with a clear glass indicator, a yellow filter fitted over the indicator glass and lit by either the usual 40 Watt clear bulbs or by 40 Watt amber bulbs. Throughout, both flat beam headlamps were in use.

Staff were placed in the appropriate signal boxes and on the locomotive. For these static tests, No.D1509 had a clear glass headcode panel lit by 25W yellow or amber bulbs, or lit by 40W yellow or amber bulbs. In a third series of tests a yellow filter screen was placed over the headcode panel glass and lit by 40W clear

After the experiments had been concluded and the equipment removed, No.1509 enters King's Cross with the empty stock for the 08.20 King's Cross-Leeds.

(Class 47 Preservation Project Archive)

Table 1: Potters Bar Test Results

Test No.	Indicator Condition	Indicator Lights Visible at	Headcode Legible at	Condition in Cab
1	Clear 40W bulb. Yellow screen	60 yards	38 yards	Slight glare
2	Clear 40W bulb. Clear screen	63 yards	40 yards	Glare
3	Yellow 40W bulb. Clear screen	65 yards	40 yards	Slightly more glare than (1)
4	Amber 40W bulb. Clear screen	58 yards	35 yards	Less glare than (1) (2) (3)
5*	Amber 25W bulb. Clear screen	63 yards	40 yards	Less glare than (1) (2) (3) (4)
6*	Yellow 25W bulb. Clear screen	70 yards	42 yards	Slightly more than (5)

bulbs, with 40W amber bulbs in the route indicator and the headlamps on.

A static test was also conducted using another locomotive approaching No.D1509 on an adjacent line. No.D1509 was on the up slow line at Knebworth just ahead of the up main signal. The weather was fine and dry and visibility good. For this static test the headlamps were lit whilst another locomotive with observation staff on board approached on the Up Main line. It was found the white beam of the headlamp was likely to cause glare so an amber filter was put over the lens.

The results of the tests showed that the 40W yellow bulb gave the best illumination. The headcode could be seen at $\frac{3}{4}$ -mile away and legible at 300 yards. The 25W amber bulbs gave the least illumination being visible at 250 yards and legible at 75 yards.

There were variable reports received regarding the yellow filter screen placed over the headcode panel glass and lit by 40W clear bulbs with one observer saying that warning of approach with it was good, another saying the opposite. Generally it was felt the results were very similar to when the headcode was lit by yellow bulbs.

The lineside observers all felt the

headlamps, whilst giving good warning of approach, tended to dazzle and make the legibility of the headcode difficult until very close. It was also thought they could hamper sighting semaphore signals and be mistaken for colour light signals.

Further testing, this time in foggy weather, was carried out on 21st January 1964. No.D1509 was unavailable, so No.D1517 was used instead. These tests were carried out at Potter's Bar. On the way there No.D1517 was fitted with 40W clear bulbs and the yellow filter over the headcode glass. The footplate staff considered this an improvement over a standard headcode glass. (*See Table 1, above*).

The results showed that with the weather conditions at the time, legibility and penetration were not unduly affected by varying the bulb wattage or colour. There was, though, a noticeable reduction in glare using low wattage amber bulbs. It is also clear that what was ideal at the lineside was not so from a driver's viewpoint. It was suggested the answer lay somewhere between the two of 40W yellow and 25W amber, perhaps 40W amber. This, it was thought, would give a reasonable display without too much back glare.



Table 2: Test Conclusions

Question	Answer
Did amber headcode illumination eliminate or reduce glare in fog?	Yes
Did amber headcode illumination affect adversely the clarity of display or reduce its value as a warning of approach?	No
What lamp wattage should be used?	40W Clear lamps
The value of the flat beam headlights in (a) Clear weather (b) Fog	(a) Negative (b) May be of some value as a warning of approach.
Did the headlights affect adversely close range signal aspect visibility?	In clear weather no. In foggy weather, glare will be increased to the detriment of the driver's vision.
Did the headlights affect adversely drivers in the opposite direction sight signals or judge stopping distances?	Could possibly affect the sighting of semaphore signals and have a distracting effect of drivers approaching from the opposite direction.

The introduction of coloured bulbs would, though, create the complication of additional items of stock. Therefore the report after the tests dated, 30th October 1964, prepared by Scutt, the Eastern Region Movements Manager, and the Region's Chief Civil Engineer recommended that either the headcode panel was fitted with amber glass or as a cheaper alternative a filter screen as used in the trial but of a deeper amber colour was fixed to the existing glass. This would ensure all light passing through the glass was amber. It was noticed during the tests that stray light from the instrument panel found its way through the indicator glass, so without a coloured screen a white light was cast ahead of the locomotive. The report then sought to answer the various questions raised in the earlier memoranda from 3rd and 13th December 1963. (See Table 2, above).

The report concluded by saying that a further series of tests was being planned using the same type of yellow filter as previously and also a deeper yellow filter with the same wattage lamps. It was considered that November would be the best time for these tests.

Indeed additional tests using No.D1509 were carried out over five days starting on Monday 22nd November 1965. The locomotive had been fitted with an amber screen on the headcode panel and lit using 40 watt clear bulbs. The Lucas flat beam headlamps with 24W amber bulbs fitted earlier were still in use. For that week, the locomotive was used on the Tinsley No.60 Engine Diagram on duties between Sheffield and King's Cross, including 'The Master Cutler' Pullman service. The aims of these tests were several. Firstly, to determine whether the use of 40W clear bulbs in conjunction with the amber screen had any adverse effect on visibility either during the day or at night, or in different weather conditions. Secondly, if the amber screen reduced glare and helped signal sighting in fog conditions. Thirdly, they were to determine whether the use of the headlights distracted drivers travelling in the opposite direction during the day or at night and in all weather conditions. To enable staff to report on the equipment, a questionnaire was made available to drivers, signal staff and inspectors. In

Table 3: No.60 Engine Diagram

	Passenger Loco	11:00	SX	LE
	King's Cross	11:20		1G60
14:07	Sheffield Mid.	15:23		1B21
18:07	King's Cross	19:10		1G61
21:45	Sheffield Vic	22:05		3G61
22:12	Heeley C.S.			LE
	Tinsley Depot	23:09		
	Tinsley	23:34		4B80
01:16	Grantham	01:36		
05:45	King's Cross Goods			LE
	Passenger Loco			

addition, arrangements would be made for special observations when fog was forecast. (See Table 3, above).

The information gathered was extensive, in total 417 reports were received from signal staff at various locations between London and Sheffield and the Inspectorate of the Chief Civil Engineer and Signal & Telecommunications Engineer who carried out lineside observations along the route. These were drawn together in a further report prepared by the Eastern Region's CME C. Scutt, its Chief Civil Engineer R. E. Evans and its Movement Manager and dated 16th February 1966.

The amber screen with 40W clear bulbs reduced the distance at which the headcode characters were first legible in clear weather to an average of around 150 yards. It was not possible to calculate an average sighting distance in foggy weather, but in both clear and foggy conditions, the headlamps tended to overcome that shown from the headcode panel. The average sighting distance in clear weather of the headcode was 200 yards.

This amber screen reduced glare for the driver during foggy weather and compared with the white headcode display improved the ability to sight signals during fog. These conclusions were reached after motive power inspectors had ridden on the locomotive three times in fog. The conditions varied with the fog limiting visibility of signals to between 100 and 800 yards.

A total of 52 reports was received from drivers about the amber headlamps and whether they caused a distraction when seen from the opposite direction in both clear and fog conditions. The majority opinion was that they did not

cause confusion in either type of weather. Some drivers of trains approaching No.D1509 on curved track reported mistaking the amber light for a yellow signal aspect. No adverse comments were received in the 52 reports from drivers regarding the amber headlamps causing difficulties sighting signals during inclement weather, be that fog, snow or heavy rain, or indeed in clear weather.

One of the motive power inspectors confirmed the headlamps did not prevent sighting signals, though there was a coloured hue created in fog. The fact the headlamps are flat beam meant they did not permit the driver's view to be encroached upon. On the line between Retford and Sheffield where semaphore signalling was used, another inspector noted that by switching the headlamps off during fog, visibility varied between 400 and 800 yards, signal sighting was easier. A number of reports from both drivers and lineside observers said the headlamps were discernible on stretches of straight track of between two and three miles, giving an earlier awareness of an approaching train than was currently the case with what was then in use on locomotives.

The equipment had proved easy to maintain and none of the bulbs either in the headlights or headcode panel had needed changing.

It was decided to extend the trial until the end of February 1966, as there had not been any fog of sufficient severity to test the equipment properly. Concurrently with these tests the Eastern Region was conducting trials involving a flashing light affixed to a locomotive. The Operating Committee discussed both trials at its meeting on 23rd February. It was decided to hold off any recommendations until both trials had been completed.

The Eastern Region's report of 16th February was discussed in detail by the Operating Committee on 25th May. This trial had not been developed further given the subsequent trials with flashing lights on other locomotives. This was because the amber light tests needed to be evaluated in relation to those other tests. As a result the Operating Committee in considering both sets of trials recommended that BR's Research Department should examine the problem to determine whether any alternative proposals, at an acceptable cost, could be evolved. Thus this experiment was brought to a close and the equipment was removed from No.D1509. No other Brush Type 4s were modified in this way despite the potential benefits to both footplate staff and those working lineside.

Subsequent to this, various experiments with headlamps were carried out on the Class 47s in the first half of the 1970s. Nos.1547 and 1549 were fitted with quartz halogen headlamps beneath the driver's side tail lamp while they were allocated to Stratford depot. These lamps were then removed when both the locomotives were reallocated to the London Midland Region in 1971 and 1972 respectively.





A CLAPHAM JUNCTION SELECTION

Steam, diesel and Southern electrics around the famous south London railway intersection in photographs from the **COLOUR-RAIL** Collection

ABOVE: Nothing could identify the Southern better than a 'Spam Can' and the type had a dedicated following, be it the 'Battle of Britain' variety or the 'West Country'. Perhaps to the surprise of some the Southern Region kept a few of the original design in service until the end of steam and 'WC' No.34015 *Exmouth* was one of the last in traffic. Possibly having been on railtour duty, the locomotive sported somewhat dirty but white painted buffers when seen on 6th September 1966. (Colour-Rail.com 342533)

BELOW: The Southern Region received a batch of six Brush Type 4s (Nos.D1921-6) primarily to work the 'Bournemouth Belle' and No.D1923 was in use as such in June 1967 although this appears to be an empty stock working. Note the discordant maroon BG nearest the

locomotive whilst an equally unmatching blue and grey example brings up the rear. When the full Bournemouth line electric service commenced the following month the 'Bournemouth Belle' was withdrawn. (Colour-Rail.com 204835)

OPPOSITE, TOP: Spending a couple of hours on Clapham Junction station noting electric units would ensure that several pages of the average notebook had been filled. Whilst new stock had fairly recently been added for various electrification schemes, the Southern Region was home to many units that had completed 30 years in traffic. One such type was the 2-BIL which stood for a two-car Bi-Lavatory unit and here unit No.2107 is part of an eight-car formation in 1966. Note the inverted black triangle on the yellow panel denoting that the leading

car incorporates a brake van. The last 2-BIL was condemned in 1971 and some received corporate blue. (Colour-Rail.com 210827)

OPPOSITE MIDDLE: Of similar vintage to the 2-BIL was the 4-LAV with the first units emerging in 1931. The 4-LAV code was easily deciphered as being a four-car unit with 'lavatories'. As can be seen in this view of No.2940 in 1965, they also had first class accommodation as denoted by the yellow bands on two of the carriages. They were originally intended to work express duties on the London-Brighton route. 35 units were built and the last were withdrawn in 1969. (Colour-Rail.com 210977)

OPPOSITE, BOTTOM: Towards the end of steam the Southern collected BR Standard types from around the country to replace both earlier designs and also class members that had been condemned. One 'incomer'





was Standard 4MT No.80095 although this example was acquired when a batch of Fairburn 2-6-4Ts built for the Region was exchanged for examples of the

Standard design, so having spent time at St. Albans, Bangor and Birkenhead it arrived on the SR in December 1959, joining the Nine Elms-allocated fleet in

November 1964. Thus in October 1965 it was available to work this parcels duty approaching the station.
(Colour-Rail.com 381606)





SUMMER ON THE WEST COUNTRY BRANCHES

With the evenings shortening and winter ahead, we may linger awhile looking back at summer days on the idyllic branches of the Great Western in Devon and Somerset. The photographs were taken by **MARTIN SMITH**

ABOVE: An Ilfracombe to Taunton train, headed by '43XX' 2-6-0 No.7304, pauses at Dulverton on 30th August 1962. Six 'all stations' trains were advertised in either direction between Taunton and Barnstaple Junction/Ilfracombe on Mondays to Fridays in the summer 1961 timetable but on Saturdays the timetable was completely recast to provide pathways for a number of long-distance additional holiday trains originating in the Midlands and the north of England.

Whilst the Monday to Friday service was hardly generous, on Saturdays some of the minor stations had four- or five-hour gaps in the service.

BELOW: Constructed under the Culm Valley Light Railway Act of 1873, the Tiverton Junction to Hemyock branch was bedevilled by construction delays and the local company, consisting of farmers and landowners, sold the line to the Great Western Railway in 1880,

apparently for half the sum it had cost to build. The branch was characterised by some extremely tight curves, mixed trains, tiny wayside halts and the need for firemen to open and close level crossing gates. The local people who promoted the line were also involved in establishing a dairy at Hemyock and traffic from there sustained the line for many years. The 7½ miles-long branch reputedly had the slowest schedules of any line in the Great Britain, the average journey time being 40 minutes. Passenger services lasted until 9th September 1963 while closure of the dairy in late 1975 sealed the fate of this charming backwater. Here '14XX' Class 0-4-2T No.1451 is depicted at Uffculme powering a Tiverton Junction-bound train on 30th August 1962.





TOP: The first railway to serve Tiverton was a 4¾ miles-long broad gauge branch from the Bristol & Exeter Railway's main line at Tiverton Junction which opened on 12th June 1848. There were no further developments for almost 40 years until the Tiverton & North Devon Railway's line from Morebath Junction, on the Taunton–Barnstaple route, was brought into use on 1st August 1884. The Exe Valley Railway, diverged from the Exeter to Taunton main line at Stoke Canon and opened to Tiverton on 1st May 1885. The summer 1961 timetable listed half a dozen Exe Valley trains both ways between Exeter and Dulverton with a few extra services between Exeter and Tiverton, some of which ran over the main line via Tiverton Junction. On peak summer Sundays there were four trains

either way between Exeter and Tiverton only. The 7.53am Exeter St. David's to Dulverton, headed by '57XX' 0-6-0PT No. 3659, pauses at Tiverton in the early morning sunshine on 30th August 1962.

ABOVE: It is likely that Tiverton station experienced long periods of inactivity between trains but here, in complete contrast, two locomotives are visible with Class '61XX' 2-6-2T No.6146 apparently collecting some vans that have been brought across from Tiverton Junction by '14XX' 0-4-2T No.1462 which is partially hidden by the deep shadow. This picture was also taken on 30th August 1962 and at that time the bulk of the '61XXs' were still allocated to London area sheds but No.6146 was one of four examples which had gravitated to Taunton. The end

came for the delightful Exe Valley line when passenger trains were withdrawn from 5th October 1963, while the link to Tiverton Junction lasted until 5th October 1964.

BELOW: Neglect and decay at Chard Central. '57XX' 0-6-0PT No.3736 simmers in the station prior to departure with the 6.20pm to Chard Junction in August 1962. The first railway to arrive in Chard was the 3¼ miles-long branch from Chard Road (later Junction) which was opened by the LSWR on 8th May 1863. The route from Taunton was converted to standard gauge in 1891, becoming one of the last survivors of broad gauge period. Passenger services on both the Chard Junction and Taunton routes were withdrawn from 10th September 1962.





Site of Beighton station (closed November 1954) where Mozley began his career as assistant clerk and porter in 1873. This view is looking north along the line towards Sheffield Victoria station where he subsequently worked as a booking clerk (1881-1884) and later as clerk-in-charge/station master (1893-1903). (Attribution: Ben Brooksbank under the Creative Commons Attribution-Share Alike 2.0 Generic licence)

“A POPULAR RAILWAY CHIEF” F TRAFFIC MANAGER: WILLIAM M

Barry Taylor’s article ‘A Woodhouse Station Family’ in Vol.39 No.6 of *Backtrack* resonated with this writer for two reasons: firstly, because my family is from the local area and I used to pass through Woodhouse regularly when travelling from Worksop to Sheffield and know the area well; secondly, because I’d previously done detailed research into the history of another employee of the Manchester, Sheffield & Lincolnshire Railway (MSLR), William Mozley. Mozley began his lengthy and extremely successful railway career in 1873 at Beighton station in north east Derbyshire which is now, like Woodhouse, part of the wider Sheffield conurbation. Beighton was only around two miles from Woodhouse on a branch line from there to the North Midland line at Beighton Junction.

Mozley would go on to spend over 50 years working for the MSLR and its successor organisations, the Great Central Railway (GCR) from 1897 and, very briefly, for the London & North Eastern Railway in the final eighteen months before his retirement in June 1924. Mozley had many different roles around the railway and multiple ‘advancements’ and promotions culminating in his final appointment as District Traffic Manager, Doncaster, in 1919 on a salary of £1,100 pa (approximately £153,000 at today’s prices). He was described as the titular “Popular Railway Chief” in an article announcing

his retirement which appeared in the *Eckington, Woodhouse and Staveley Express* on Saturday 24th May 1924.

Given that Mozley began his railway life at Beighton and later worked at Woodhouse, it is quite possible that he knew and at some time worked with William Golden, the station master identified by Taylor as being at Woodhouse during the 1890s. Although Golden clearly had a successful career, culminating in his becoming station master at Chesterfield in 1891 (at which time Mozley was fulfilling a similar function at Fallowfield in Lancashire) he was not as successful as Mozley who, as is described below, went on to progress to much more senior appointments and whose trajectory is described in the MSLR’s ‘Register of Principal Staff’. This article uses that document to follow Mozley’s career and consider what it tells us about both the individual concerned and about the wider social history of late nineteenth and early twentieth century railways.

Early days

The young Mozley was just twelve years and eight months old when he left his home on a cold February morning in 1873 to walk to his new job as Assistant Clerk and Porter at Beighton station on a wage of six shillings per week (30 pence per week, £15 and 12 shillings per annum (£15.60)). The railways were going through a period of expansion at this time, following a minor investment boom in the mid-1860s, and Mozley became one of around 275,000 railway employees, a fifth of whom were porters: it is astonishing to reflect on the fact that just 50 years earlier, as McKenna recognises,

no such thing as a railway worker existed and now there were over a quarter of a million of them. Although this expansion meant that there were plenty of railway jobs available, it wasn’t simply a question of the prospective employee applying for a job because a system of patronage was in place. Under this system railway company directors in rotation nominated men to jobs and because Mozley, like many others, came from a poor agricultural background one has to wonder how he was able to go about obtaining the necessary patronage. However, it seems that by the 1870s the patronage system was something of a formality with directors signing blank forms which were subsequently completed by officials.

In obtaining such patronage Mozley was no different from other poor railway recruits and he was actually very typical of them, particularly those in the ‘traffic’ grades such as porters who required little skill. Many of these workers were, as McKenna points out, “called ‘over the fence’ from the countryside adjacent to the developing tracks” and in the 1871 census Mozley’s father, also called William, is described as an ‘agricultural labourer’ and his two older brothers were also working on the land. The ten-year-old Mozley was still a ‘scholar’ but, given that the school leaving age was only formalised at ten by the Elementary Education Act of 1880, it is likely that he was very close to the end of his formal education and he may well have worked on the land for a couple of years before being called ‘over the fence’. Although recruits from agriculture like Mozley predominated, with the vast





FROM LAD PORTER TO DISTRICT MOZLEY OBE, 1860-1925

BY GARY BONSALE

majority found locally, many other recruits to lower level jobs came from three other principal sources: the ranks of the navvies who originally built the railways, from the army and from those in domestic service.

Although figures for the MSLR are unavailable, those for the Great Eastern Railway (GER) in 1874/75 show that 64% of entrants to the company in that period were boys and porters, such as Mozley, who joined at the bottom of what was a complex hierarchy or, more accurately, a series of complex hierarchies, because different groups such as footplatemen, guards, porters, shunters, clerks and all

other trades and specialisms each had their own routes to advancement. Recruits seem to have been drawn to the railways for a number of reasons including opportunities for such advancement plus job security and, of course, wages. Interestingly, these are all elements to be found in what later economic historians describe as an internal labour market (ILM) where pay and status are linked, as in the early railway companies, in a bureaucratic, rule driven and hierarchical structure which offers job security and incremental pay often based on seniority rather than merit. As Strangleman identifies, railway workers occupied "a strange

Woodhouse station, on the line between Sheffield and Lincoln, sometime before December 1903. The station was just two miles from Mozley's home in Beighton (which was on a branch to the North Midland line) and is one of the earliest examples of the MSLR's 'Double Pavilion' style. This was the second station at Woodhouse and is around 700 yards west of the site of the first, which it replaced in October 1875. Mozley took his first steps into the white collar world when he became a telegraph clerk here in March 1875 and would thus have been at the original station for the first six months of his time here. (John Alsop Collection)

A 1954 photo of Dunford Bridge station, adjacent to the Woodhead Tunnel, where Mozley worked as an assistant clerk from June 1877 to November 1878. The station was resited a few yards to the south in 1953 when the new third bore of the Woodhead Tunnel was opened. (www.disused-stations.org.uk)



organisational space between modernity and tradition" and the railway companies were such large organisations that they needed new control structures: they quickly developed centralised bureaucracies with a high degree of management control and specialised division of labour organised by grades and departments governed by the company rule book.

Two other characteristics of ILMs are, firstly, that many entrants, just like William Mozley, joined at the lowest level (although figures for the MSLR aren't available, almost 90 per cent of entrants to the GER between 1870-1913 joined at this level) and, secondly, they encouraged the keeping of work 'in the family' with sons following fathers into the workforce. Indeed, as is discussed later, Mozley's son, William junior, followed him into railway work and there are many indicators that both Mozleys, particularly William senior, benefited from working in an ILM. Pay is, of course, an important element of an ILM and Mozley benefited from the fact that railway wages were higher than those in agriculture: by 1883, ten years after he joined the railway, he was earning 27s 6d a week, more than twice the then average agricultural labourer's wage of 13s 7d.



Chester Northgate in 1914. Mozley was clerk-in-charge/station master here between March 1890 and October 1891.
(Pendragon Collection)

However, these relatively high wages, job security and opportunities for advancement undreamt of in the agricultural world came at a cost: railwaymen had to accept long hours of work and incredibly harsh discipline which meant they were regularly fined or disciplined, and could even be dismissed summarily for minor rule infractions. Essentially, the demands of the railways ruled the workers' lives, and it is difficult to argue with McKenna's view that railwaymen actually surrendered their freedom for job security. Although many were clearly able to accept these harsh conditions and adapt themselves to them (as evidenced by the numbers who went on to have lengthy careers), many others were unable or unwilling to do so and staff turnover was high. Mozley, however, was clearly content with the railway's demands and went on to take advantage of the opportunities offered to better himself.

Mozley's betterment began quickly: after six months at Beighton (which closed to traffic in 1954) he transferred, in the same grade of assistant clerk and porter, but with a pay rise from six shillings to ten shillings per week, to Silkstone station (now known as Silkstone Common) near Barnsley on the Penistone line between Huddersfield and Sheffield. Whether Mozley deliberately chose to move to Silkstone because it offered higher pay and better prospects or was sent there by the company is unknown but the latter is much likelier. As McKenna points out, "every minute of [a railwayman's] time was at the company's disposal... he was to reside where required by the company [and] report for duty as and when required by the company". It is also unknown whether Mozley commuted daily to Silkstone, some twenty miles from Beighton, was accommodated in railway property or stayed in lodgings. Whatever the case, he was there for just two months before seemingly moving sideways to become what is described as a 'lad porter', on the same wages of ten shillings a week, at Wortley to the south west of Barnsley:

nearby Wortley Hall was the seat of the Earl of Wharnccliffe, the chairman of the MSLR, and the station (which closed in 1955) had a private waiting room for use by the Earl and his family. Mozley also remained in this post for just two months, but this is quite typical of the experience of Victorian railwaymen who were often moved between stations. These moves seem to have been for three main reasons: for the railwayman to gain experience at a different category of station, on promotion or sometimes as punishment for some misdemeanour.

It is interesting to speculate, given the hierarchical structures within the railway companies, on just what the differences were between the grades of 'assistant clerk and porter' and 'lad porter' especially as the wages appear to have been the same for both grades, but that the first element of the former would seem to demand a higher level of literacy than that required by a porter. Whatever the difference might be, it was certainly cheaper to employ boys rather than men and, indeed, in the 1850s the MSLR actually replaced 50 men clerks and porters with boys for this reason. However, given that both Mozley's early roles paid the same it seems unlikely that that was the situation here. What is likely, though, is that he would have been wearing a uniform in these and many of his subsequent roles. Uniforms were both an important part of the way the railways presented themselves to the public and a way of ensuring staff loyalty within the ILM structure, and they were seen by railwaymen as being part of their overall pay and benefits package. Interestingly, almost all railway staff except 'clerks' wore uniform although, confusingly, those classified as 'station clerks' often did so: thus the term 'clerk' used without qualification perhaps meant those employed in back office

roles in headquarters or regional offices. Mozley would doubtless have looked very fetching in his MSLR porters' uniform described by McKenna as being a suit of "dark green velveteen (a woven, durable fabric resembling velvet made from cotton or a cotton blend) with red cloth collar. In addition, he would have been provided with a dark green cap with a red edge and leather band lettered 'Porter No.8'."

His next move was a major one, at least in geographical terms, when, in January 1874 he transferred, still as a lad porter, around 50 miles from Beighton to Dukinfield in Cheshire (now Greater Manchester); such a move would have been unimaginable before the age of the railway and is perhaps unimaginable today for different reasons when we consider that Mozley was still only thirteen years old. Dukinfield (from 1910 the site of the GCR's carriage and wagon works, closed in 1959) at least gave Mozley the opportunity to settle down for a period because he remained there for fifteen months. Presumably he had to have been lodging locally at this time given the distance of Dukinfield from his home.

White collar worker

Mozley's next appointment was perhaps one his most significant because he not only began to ascend the hierarchy but he also moved from the humble blue collar work of portering to white collar work when he became a telegraph clerk at Woodhouse in March 1875, his wages rising from ten shillings a week to twelve and sixpence. This move is particularly important because in Victorian society those in higher, particularly white collar, grades were deemed to be socially superior to those in lower grades, so Mozley was clearly getting on in the world. As was mentioned above, Woodhouse is just two miles down the line from Beighton so we can perhaps assume that Mozley moved back in with his family at this time and that he was able to enjoy some home comforts during the year he spent at Woodhouse



learning and developing his skill in Morse code. A year later, in March 1876, he moved once more, this time to Gainsborough (which was renamed Gainsborough Central on grouping and had the dubious claim to fame in 2002 of being one of Britain's least used stations), still as a telegraph clerk but on increased wages of fifteen shillings.

After fourteen months at Gainsborough Mozley was on the move again, both in his role and geographically: in June 1877 he moved to Dunford Bridge station (closed 1970) near the eastern portal of the Woodhead Tunnel on the main line between Sheffield and Manchester to take on the post of assistant clerk: at that time, astonishingly, the tunnel saw as many as 250 trains per day in either direction, so it was a very busy location. Mozley's pay was initially seventeen and sixpence but he was 'advanced' (to use the wording in the Staff Register) to £1 a week after he'd been in this post for a year in June 1878. He retained this wage when, five months later in November 1878, he returned to the Manchester area and became a booking clerk at Newton for Hyde station although he was advanced to £58 10 shillings in July 1879. He left Newton in January 1881 and, one might almost say "at last", he was able to settle into a role for more than a few months: he arrived at Sheffield Victoria station (closed 1970) as a booking clerk and he remained there until June 1884. In the 1881 census he was lodging with a railway guard at 101 Nottingham Street, Sheffield, conveniently located around a mile from Victoria station. During this posting to Sheffield he received two pay advancements taking his salary to £78.

His personal circumstances changed dramatically towards the end of his time in Sheffield because, on 24th June 1884 (his 24th birthday), he married the 21-year-old Sarah Jane Fairbairn in St. Mary the Virgin, the parish church of Beighton. Both bride and groom show Beighton as being

their place of residence on their marriage certificate (with Mozley describing his profession as 'Railway Clerk') so we might assume that Sarah was a local girl. It was surely a mixed blessing, however, that on 11th June, just a fortnight before the wedding day (and illustrating just how much railwaymen were at their company's disposal), Mozley was advanced yet again and transferred to Manchester as a relief clerk: interestingly, the *Eckington Express* article mentioned earlier says that he went "into the Accountant's office on the Relief Staff", but his record doesn't mention this fact, it simply says he became a Relief Clerk. How Mozley's new wife reacted to this move and whether his pay rise from £78 pa to £84 10s ameliorated her reaction is unrecorded! Also unrecorded is whether the new Mrs. Mozley accompanied her husband to Manchester or whether she remained in Beighton. Mozley's wage in Manchester was advanced to £91 pa in June 1886 and then, in April 1887, he made a significant step and entered the ranks of management by becoming clerk-in-charge (C-in-C) at Gunness station in north Lincolnshire; in general at larger stations, the station master was responsible for operations and the C-in-C for the commercial side of the business but at small stations the roles could be combined. Where the roles were distinct, it was possible for a C-in-C to outrank a station master and they certainly did so up until the 1850s at least. Both

Fallowfield station, then in Lancashire now part of Manchester, pictured before July 1904. Mozley was clerk-in-charge/station master here between 1st October 1891 (the day the station actually opened) and August 1893. The station opened in stages between then and May 1892, so Mozley clearly had an important part to play in its development and was, perhaps, chosen specifically for the post. (John Alsop Collection)

station master and C-in-C were uniformed posts.

Before going into detail about this next phase of Mozley's career, it is worth pausing to reflect on his achievements so far: he is 27 years old and has been in railway service for half his life; he has held seven job titles (and has special skills as a telegraph clerk and possibly in accountancy) and has worked at ten different stations so has a significant grounding across a broad range of the MSLR's operations; his salary has risen six-fold from £15 12s pa to £91 pa; he has also improved his social standing by moving from the harsh and physically demanding role of porter into a succession of higher paid white collar roles. He can perhaps be categorised as one of the new breed of worker identified by McKenna "a loyalist... an 'organization man'," drawn "from literate respectable and sober families". Although mobility was, as Kingsford describes it, "an essential and peculiar feature" of railway work and most staff expected to be moved from station to station, it is unclear whether Mozley's significant number of different postings was typical or atypical: clerks and station masters were, however, the two most highly mobile groups.

What *is* clear, however, is that Mozley was one of the more energetic and fortunate men who was able to take advantage of the promotion and advancement opportunities which the railways offered to, as Kingsford describes them, "respectable men of reliable character". These promotion opportunities were influenced by four factors: railway expansion (which was happening in 1873 when Mozley began his career), mobility and willingness to move, good behaviour and ability or merit, all of which elements or attributes seemingly applied to Mozley. However, many railwaymen only achieved one or two promotions in careers as lengthy as Mozley's so he was clearly an exceptional talent. At this point in his personal life he is now a married man with a daughter, Alice,



who was born in Gunness; she was the first of his five children, four girls and William junior, the latter being the second born.

Station master

Although Gunness appears to have been a very minor station (it was closed as early as 1916) located near the River Trent on the MSLR's line between Doncaster and Cleethorpes, it offered Mozley, the new C-in-C, a significant perk only available to about 10 per cent of rail workers – it came with a company house and, as McKenna puts it, “railway housing, both privately rented and company-owned, set a seal on the Victorian railwayman's respectability”. This respectability came at a cost, though, because, as C-in-C with a house provided, Mozley's pay dropped from £91 pa to £68 pa, although this may have been a small price to pay for him to have his wife and young family with him and the social status of C-in-C, even at a small station, was possibly higher than that of clerk at a larger one. The family remained at Gunness for around three years before moving to the much larger, and now closed (1969), station at Chester Northgate in March 1890. Kingsford points out that the determining factor in a railwayman's promotion was the classification of the station according to revenue, traffic or operational activity: Mozley's career clearly shows him moving up the promotional ladder by working at increasingly important stations.

In Chester the family again lived in company housing when Mozley took up the role of C-in-C at £78 pa. They remained in the city for eighteen months and during that period took part in the 1891 census which showed them as living at an address that appears to be Campion Villas in the city. They had two children by this stage (William Junior was born in 1890 or '91) and the census records that three lodgers were also living at the address, another married couple and their daughter. Unfortunately, the man's occupation is indecipherable, but the MSLR's rules only allowed staff in their properties to have lodgers who were also railway workers. Fascinatingly, although

the MSLR's official record shows Mozley as being C-in-C at Chester he describes himself in the census as ‘Railway Station Master’, possibly because the epithet more clearly describes the role or, perhaps, because the title sounds grander and has greater cachet and is thus more reflective of the Victorian imperative to better oneself.

Bettering himself is what Mozley continued to do by moving to Fallowfield in Lancashire (now Manchester) as C-in-C in October 1891 and to Sheffield for the second time, this time as C-in-C, in August 1893. He may well have been the first C-in-C of Fallowfield because records show the station there opening in stages between 1891/92 and successfully overseeing this event would be a significant feather in Mozley's cap. At Fallowfield (which closed in 1958) his salary rose to £84 10s, not far short of the £91 he had been earning before he moved into company housing, and when he moved to Sheffield, where he was to remain for ten years, his salary soared, initially to £120 with housing. In 1895 he was advanced to £170 with housing and, in 1896, to £225 without housing although there is no explanation as to why he appeared to no longer be using railway accommodation. It is possible that he actually remained in such accommodation but that the fact is simply not shown on the record. Although he received another advancement to £250 without housing in 1898 (which salary he retained for the next five years) it seems odd, but is perhaps just coincidental, that in the previous year, 1897 (the year the GCR was formed) he received no uplift. He remained in Sheffield until April 1903 and

two very contrasting incidents involving him, and showing the breadth of a station master's responsibilities, were reported in the local press during his tenure. The first incident was a large fire in a pile of old railway sleepers next to Victoria station reported in the *Sheffield Daily Telegraph* on 29th January 1894. Mozley is reported to have taken charge of this incident (which drew enormous crowds who apparently much enjoyed the spectacle) and decided to let the fire burn out rather than calling the fire brigade: damage was estimated at between £60 and £70. The second, happier, incident was on 11th May 1895 when Mozley is reported as having accompanied the then General Manager of the MSLR, Sir William Pollitt, in welcoming the Duke and Duchess of York (the future King George V and Queen Mary) when they arrived at Victoria on a royal visit to the city (*Sheffield Daily Telegraph*, 10th May 1895).

On 2nd February 1903 the same newspaper reported that the “popular and courteous station-master at the Victoria Station” (although he was still described as C-in-C in the official record) had accepted appointment as Superintendent of the Sheffield–Manchester line from April 1903. On his leaving Sheffield “in order to fill a higher office in the service of the company he was presented with a purse and £50” (presumably by the company) having “already received a present from the staff”. The paper also later reported that “the esteem in which he was held by travellers on the line was general” (*Sheffield Daily Telegraph*, Saturday 18 April 1925).

Senior manager

Although the *Telegraph's* report had Mozley moving on to superintend the Sheffield–Manchester line, his official record states that he was undertaking unspecified duties at the General Manager's Office (the General Manager at that time being the recently appointed Sir Sam Fay) between April and August 1903 at a salary of £276 pa. 1903 was a busy year for the GCR as it introduced new services on the London Extension and added new lines at

Sheffield Victoria station in 1894 when Mozley was actually working there – he arrived on 18th August 1893 and was to remain the “popular and courteous” clerk-in-charge/station master there for the next ten years before being promoted to District Superintendent. I like to think that might be him standing on the platform but I'm sure that such an important personage would be in a much more prominent position!



Marylebone, so he may have been involved with this work. He then spent a period of nine months as Assistant to the District Superintendent, Leicester, at the same salary. In May 1904 he himself became District Superintendent, Leicester and London (perhaps his previous appointment was to shadow the incumbent) in which role he remained until May 1910 receiving advancements along the way, taking his salary up to £425 pa. The *Eckington Express* newspaper commented, in Mozley's obituary (24th May 1924), on the importance of this move "for it was to London where he took charge of the London District for the Great Central Railway Co."

Mozley's final two appointments were both in Doncaster, the first as District Superintendent (where, between May 1910 and June 1919, he advanced from £475 pa to £800 pa and was granted a war bonus of 20% of salary plus £60 pa from 1st July) and the second as District Traffic Manager (July 1919) from which post he retired on 30th June 1924 on a salary of £1,100 pa. On his promotion to this last post, the *Eckington Express* article describes him as "coming from the very lowest beginnings" to being made "responsible for the operating as well as the commercial side (of the railway)" and being in charge of a wide area containing "vast commercial and industrial interests... with a huge coal traffic from the collieries" and "it says a great deal for Mr. Mozley that he has won as great a regard from the industrial heads as he has from the general travelling public". Mozley was a member of the GCR Pension Fund and this gave him a lump sum of £550 and an annual pension of £632. In addition to this pecuniary recognition he was also, in April 1920, rewarded with an OBE "for services in connection with the War" (*sic*). Sadly, Mozley did not live long enough to enjoy the benefits of his generous pension: on 16th April 1925, when he was aged just 64, and only ten months after he retired to live by the sea in Cleethorpes, he died and is buried in the cemetery there.

Unfortunately, I have been unable to discover what Mozley's wartime services were and, as yet, have been unable to discover any detail, other than the bare outline given above, about his career in senior management. I have, however, been able to glean some interesting information about him, his family and his neighbours from the 1911 and 1921 censuses. In the former Mozley is recorded as being a 'Railway Superintendent' living at 'Ingleby', Avenue Road, Wheatley, in Doncaster (a street of substantial Victorian redbrick villas which today is leafy and tree lined and part of the Thorne Conservation Area) with his wife and three youngest daughters. All these neighbours were in well-to-do middle class occupations such as senior railway managers, merchants and accountants, and many of them had live-in domestic servants although, interestingly, the Mozleys didn't. Astonishingly, the Mozley's next door neighbour at this time (living in 'Shilligford' on Avenue Road) was a 34-year-old railwayman describing himself as an 'Engineer - Superintendent' working in the Carriage and Wagon Department of the

Great Northern Railway (GNR). In the 1921 census that same railwayman was living in Uppingham and had been promoted to Chief Locomotive Engineer of the GNR: his name was Herbert Nigel Gresley and he subsequently, of course, went on to become Chief Mechanical Engineer of the LNER and, as Sir Nigel Gresley, one of the most famous British railwaymen of all time.

Mozley's two eldest children, Alice and William junior, were no longer living at home in 1911 but the latter (in true ILM fashion) was following in his father's footsteps as a railway worker: William junior describes his occupation in the 1911 census as 'Railway Draughtsman', so it seems that he was on a professional path and had not had to work his way up from blue collar roles like his father. However, in an echo of his father's experience as a young man in Sheffield in 1881, 30 years later William junior too was a lodger, living with a railway clerk and his wife in Harrow-on-the-Hill in Middlesex. Mozley senior and his family were still at the same address in Wheatley in 1921 but Mozley is now recorded as being District Traffic Manager for the GCR based in Doncaster. The 1921 census also reveals, I was pleased to see, that William junior was making good progress in his life and railway career as he was now employed by the GCR at Marylebone station as an architectural draughtsman and was married with a three-year-old daughter.

Conclusions

William Mozley was a boy from a very poor background in the north midlands who bettered himself spectacularly in both career and social terms by taking advantage of the opportunities offered to him by working for the railways when they were at their zenith. He was obviously a very capable and likeable man who built an extremely successful lifelong career, although good fortune and early patronage must also have played a part. It is clear that he was able, particularly early in his career, to accept the harsh conditions that came with railway work and to adapt himself to them, partly by being supremely mobile.

Mozley was typical of most Victorian railway workers in that he entered as a porter at the very bottom of the hierarchy, but the progress he made to the ranks of senior management was atypical as many of his contemporaries would only have ever received one or two promotions while Mozley had around fourteen or fifteen; he also worked in both blue and white collar jobs and in both commercial and operational roles. Another typical element of his career is that he was spatially mobile: although all railwaymen were expected to move to different locations, the number of moves that Mozley made was exceptional; a quick glance at the careers of other senior staff shows that very few, if any, were anywhere near as mobile as he was. Perhaps this willingness to move (partly ameliorated when he became a middle manager by his becoming one of the fortunate 10% of railway workers who had the benefit of company housing) partially explains why he was able to progress so far in his career.

He was also typical of the 'railway

family' in that his son followed him into railway work. Mozley can thus be categorised as both typical and, at the same time, atypical of Victorian railway workers: he entered at the lowest level but made much more significant progress than most; was much more spatially mobile than his contemporaries and was one of a small number to benefit from railway housing. Whatever the case, he was clearly, in Kingsford's words, one of the "more energetic or fortunate men" able to take advantage of the opportunities on offer. Personally, I find it enormously rewarding that the "poor boy made good" of this article should have ended up being both the neighbour and, for a short time at the LNER, colleague of Nigel Gresley. Although Mozley did not achieve Gresley's status and fame, his story is nonetheless an important one for what it tells us about the wider social history of Victorian and Edwardian railwaymen.

Finally, in the year that Railway 200 is celebrating "the 200th anniversary of the birth of the modern railway (when) Britain and the world changed forever", it is worth reflecting briefly on how the railway world which Mozley knew has also changed forever. Very few of the roles he fulfilled still exist and, of the twelve stations at which he worked before entering the ranks of senior management, only four remain open: Silkstone, Woodhouse, Gainsborough Central and Newton, and only the latter is staffed, the other eight having closed on various dates between 1916 and 1970. As the *Eckington Express* put it, the news of Mozley's retirement "will be met with considerable regret" and we should, perhaps, view our significantly diminished railway system with similar regret.

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The C8 Class, represented by No.295, was the first class of 4-4-0 introduced by Drummond for the LSWR and resembled his designs for the Caledonian which comprised the 'Carbrooks' built for the West Coast and the Class '80s' for the Wemyss Bay route. The C8s had 6ft 7in driving wheels and boilers similar to the M7 0-4-4Ts and the '700' 0-6-0s but had rather small fireboxes (1,191sq ft) and were noted as poor steamers. The ten engines were withdrawn between 1933 and 1938, to be outlived by the older Adams T3 4-4-0s, the last of which survived until 1940.

(Pendragon Collection)

Dugald Drummond died in 1912 at the age of 72 while still employed by the London & South Western Railway, following the amputation of his legs resulting from a scalding accident. There are two versions to account for the scalding: one attributes it to an escape of steam on the footplate; but the commonly accepted version, supported by Hamilton Ellis, has it that Drummond became chilled and demanded that his

LAKE'S CHIEF MECHANICAL DUGALD DRUMMOND

Impressions of the man and his work by
C. S. LAKE and others.

Collected by **MALCOLM COWTAN**

housekeeper prepare a hot mustard bath. Unable to feel the benefit of this he insisted on hotter and hotter water, the temperature of which was increased to the point that his legs were severely scalded, leading to gangrene. Amputation became necessary, which was carried out without anaesthetic (Drummond refused

it) and the shock of this killed him. Thus ended the life of a man both revered and feared. A perhaps apocryphal sequel to the account has it that half a ton of brake blocks were put on his grave to ensure he continued to remain at peace below ground! Drummond was certainly not unusual among his contemporary Chief Mechanical Engineers for his autocratic style, but it seems he invoked a feeling of terror in some of his employees, notwithstanding a regard for the welfare of his men. Hamilton Ellis's words can

Drummond's second design of 4-4-0 for the LSWR was the famous T9 and No.715 was photographed at Earlsfield in 1900. Superheating by Urie, rather than the firebox water tubes favoured by Drummond, radically altered their appearance, but even before this modification, their reputation for reliability, economy and high speed was well established. 66 were built, 35 at Nine Elms and 31 by Dübs & Co. Withdrawals began in 1951, including all the thirteen converted to burn oil during the post-World War II coal shortage. No.715, as 30715, was one of the last to go, in 1961. No.(30)120 lasted until 1963 after being selected for preservation. (Pendragon Collection)





ICAL ENGINEERS PART 4

hardly be bettered: "...Dugald Drummond seemed a terrible character. He feared nobody, and the most distinguished personage, calling on him uninvited and when he was busy, would receive fierce rebuff. To the humbug, and the sycophant, he was pitiless and his language would be peppered with adjectives inspired by most of the vices

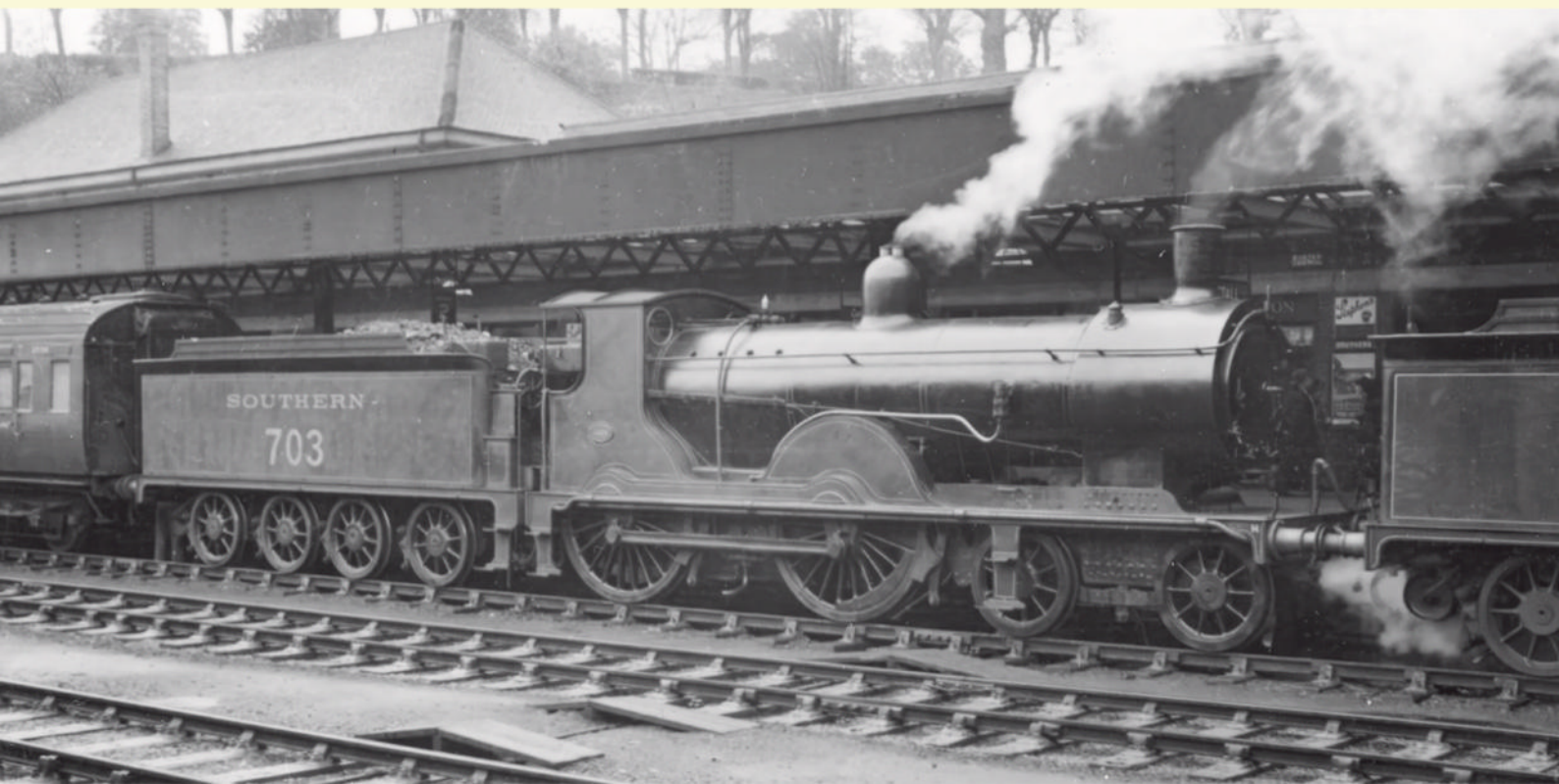
– and the fearful fate – of Sodom and Gomorrah."

Early career

In many ways Drummond's career progression is recognisable today in 'high flyers' in their field, with steady career improvements. In Drummond's case following his apprenticeship with Forrest & Barr, and experience gained at Peto, Brassey & Bott, he learnt his trade in locomotive design firstly under S. W. Johnson at the Edinburgh & Glasgow railway at Cowlairs and then in 1865 at Inverness on the Highland Railway where in his job as foreman erector he was greatly influenced by William Stroudley. The pair established an unlikely close relationship. Drummond, noisy and tough, could hardly have been more different from his older colleague. The relationship continued in 1870 when Drummond followed Stroudley to Brighton for a further five years, before, in 1875, a move back to Cowlairs as locomotive

T9 No.703 at Exeter Central in April 1939 in its modified form with extended smokebox to accommodate the superheater. In later years the T9s were much used on the lines of the 'Withered Arm' in north Devon and Cornwall, where their light axle loading gave them wide availability. The large 'watercart' tender was so named because of its proclivity for leaking its contents as a result of the attachment of the bogies directly to the underside of the water tank – a Drummond economy measure which saved money in construction, but at a cost. (Pendragon Collection)

Drummond's 4-4-0 of 1877 for the North British Railway established the pattern for all his subsequent 4-4-0s, as well as those of his successors Holmes and Reid on the NBR with their '592'/'633' Classes and the 'Scotts' and 'Glens'. Called the 'Abbotsfords' with their links to the novels of Sir Walter Scott, there were twelve engines built in three batches of four by the NBR's Cowlairs Works and Neilson's. After Drummond moved to the Caledonian he produced the 'Carbrook' 4-4-0 for the West Coast services and another design with 5ft 9in driving wheels for the more steeply graded Wemyss Bay line. His successors on the CR, Lambie and McIntosh, continued to build similar designs with the '13' to '17' Classes and the famous 'Dunalastairs' respectively. Meanwhile Drummond's brother Peter followed the pattern with his 'Ben' Class and later a large 4-4-0 for the G&SWR. The last of the 'Abbotsfords' was withdrawn in 1924. (with acknowledgements to *Railway Magazine*, November 1951, 'The Drummond 4-4-0 locomotives' by David R. Webb.) (Pendragon Collection)



superintendent of the North British Railway. Here, Drummond faced a task similar to that of Stroudley at Brighton, where Stroudley's predecessor Craven had eschewed any form of standardisation, constructing locomotives in small numbers designed for specific tasks. At Cowlairs, Drummond's predecessor, Thomas Wheatley, had followed a similar strategy. Drummond's designs used as many standardised parts as possible.

A throwback to the days when railmotors were an attempt to reduce the cost of operation of lightly used branch lines. Drummond's C14 0-4-0Ts began life as 2-2-0Ts – effectively the power unit of a railmotor, which Drummond tried but found wanting because of lack of power and inflexibility as the power unit was permanently coupled to the coach. Ten were built in 1906/7, but like the railmotors, their lack of power limited their usefulness. Two engines were built new as 0-4-0Ts (Class S14) and a programme of rebuilding the others into 0-4-0Ts was begun, but then cancelled by Urie. Seven were sold to the War Office in 1916 for light shunting duties. Two had been rebuilt as 0-4-0Ts and those were sold to the Ministry of Munitions in 1917. After World War I three remained with the LSWR, one an 0-4-0T and two 2-2-0Ts which were rebuilt as 0-4-0Ts in 1922/3. All three then survived into the 1950s as Nos.30588/9 (0741/4 in SR days). This pair was withdrawn in 1957, whilst the third as Departmental No.775 (of vivid recollection to this author in the *Observers' Book of Railway Locomotives*) survived as a shunter at Redbridge sleeper works until 1959. Pictured is No.30589 on a RCTS special at Bishop's Waltham on 14th June 1952. (Les Elsey)

Some facets of Stroudley's designs were continued in Drummond's own engines – particularly robustness of design and the characteristic mounting of the safety valves on top of the dome which was done to minimise the number of openings in the boiler, a perceived requirement until materials and construction techniques made this unnecessary. There was a down side to the positioning of the safety valves on the dome, as priming could lead to the emptying of the boiler. The design of Drummond's cabs was also reminiscent of Stroudley, although Drummond's cabs were cheaper to build. But in one important respect Drummond broke with Stroudley's dislike of front bogies, when he built his first 4-4-0 of the 'Abbotsford' Class, in so doing surpassing any of Stroudley's designs. This set the pattern for further 4-4-0s of various sizes built for the North British Railway (the 'Scotts' and 'Glens'), Caledonian Railway (the '66' Class subsequently enlarged by McIntosh into the 'Dunalastairs') and LSWR (the T9s among others), as well as the similar designs of his brother Peter for other Scottish companies. A list of distinguished locomotive designers built 4-4-0s in a similar form to the 'Abbotsfords': Matthew Holmes and W. P. Reid on the NBR, J. Lambie and J. F. McIntosh on the CR as well as Drummond's brother Peter on the Highland.

Drummond's next move was to the Caledonian Railway. In 1882. The CR's CME, Benjamin Connor, died in his post in 1876 and George Brittain took over temporarily. Brittain was essentially a running man and soon the Caledonian's engines began to look old-fashioned when compared with those of the NBR at locations such as Carlisle. Drummond was headhunted to take over.

How this happened is described by H. Campbell Cornwell in his book *40 Years of Caledonian Locomotives, 1882-1922*. "(Drummond) found himself seated at the same hotel table as two Caley directors, and accepted the post... before the first course was finished". Drummond's salary was £1,700, twice that of Brittain. Within two years it had increased to £2,000. Drummond's experience enabled him to deal with many of the CR's problems. The works at St. Rollox was remodelled; the overhaul and rebuilding of engines were re-organised; several depots were rebuilt, including Polmadie; new locomotives similar to his North British designs were introduced. Of note were the 0-6-0 tender engines of Classes 294 and 711 called 'Jumbos' and perpetuated by Smellie, Lambie and McIntosh. The last 'Jumbos' survived until 1963, even longer than Drummond's '700' Class on the LSWR. A policy of standardisation of parts was pursued and the decision made to adopt Westinghouse air brakes. To carry out his ideas a trusted team was assembled notably Montgomerie, Urie, George Wheatley and Dugald's brother Peter.

An opportunity in Australia – and the LSWR

After eight years with the CR, Drummond was ready to move on, despite by then earning £2,400 per annum (possibly the highest paid of all his contemporaries). An opportunity to establish locomotive manufacturing in Australia following a visit by Sir Saul Samuel of the New South Wales Railway in May 1889 was the attraction for Drummond to leave the CR with a gift of £1,000 from the CR board. This move to Australia proved to be the only setback in Drummond's career. Hamilton Ellis suggests ordering



a locomotive from Drummond must have been a nerve-wracking business. Notorious for not suffering fools gladly (or at least those he deemed to be fools), he probably didn't take easily to the role of accepting that the customer is always right.

A resumption of the sort of work to which Drummond seemed to be best suited had to wait five years until the retirement of William Adams of the LSWR

M7 0-4-4Ts Nos.30040, 30112 and 30060 at Bournemouth shed on 6th November 1960. Drummond designed the M7s in response to the expanding London suburban servicers. 105 engines were built between 1897 and 1911 using many standardised parts. They were the heaviest 0-4-4Ts built in this country. With advancing electrification in the London area, they were increasingly used throughout the network. 31 of the class were fitted with pulley-worked push-pull apparatus after 1912 for use on branch lines, but a compressed air system was adopted in 1930 because of imprecision with the pulley system as the cables stretched. This was fitted to 36 locomotives between 1930 and 1937, with a further four between 1960 and 1962. The compressed air system required a lengthening of the frames for the engines originally built with short frames. This was the most visually significant of the variants. The class as a whole escaped the big cull at the end of 1962, with twenty withdrawals coming in 1963 and thirteen in 1964, six of which were at Bournemouth. Nos.30040 and 30060 were withdrawn from Bournemouth in June/July 1961; No.30112 was withdrawn from Guildford in February 1963.

(Alan Tyson/Pendragon Collection)



Drummond's personal conveyance, 'The Bug', a 4-2-4T, was built in 1899. After Drummond's death, his successor, R. W. Urie, made little or no use of it (he might have been denied its use) and it found employment as an inspection saloon on the network at Southampton Docks. It was later laid up and withdrawn in 1940. The frames were used to transport heavy loads around the works at Eastleigh until 1957, while the saloon was used as the timber inspector's office until the 1970s. It was believed to have been in use as a garden shed in Swanage in 2013 (source: Wikipedia). It is seen here in SR days, possibly laid up. (T. J. Edgington Collection)

in 1895. By then Drummond's reputation for designing robust, reliable engines must have been well established, but another factor that must have been just as important was his experience with the Caledonian in remodelling St. Rollox Works and re-organising locomotive repair. All this on the LSWR was carried out at Nine Elms, where the cramped site in South London prevented expansion.

Drummond was offered the post of CME and took it at a salary of £1,500 – considerably less than the £2,400 he had been earning at the Caledonian. This is partly explained because there had, it appears, been a downturn in salaries in the intervening years. His appointment was to see the end of the rather relaxed regime under Adams and Drummond appointed some trusted former colleagues





Of Drummond's five designs of 4-6-0, his fifth was the only one to show any improvement over his 4-4-0s. The ten engines of the T14, or 'Paddleboxes' were introduced in 1911/2. They had 6ft 7in driving wheels and four cylinders in line with Walschaerts valve gear on the outside cylinders. The motion for the inside cylinders was derived from the outside cylinders by rockers. A series of modifications over the years resulted in an improvement in initial problems of high coal and water consumption and hot axleboxes. All except one engine destroyed in an air raid survived to the early days of BR. No.461 is pictured at Exeter Central on 7th April 1919, by which time it had been fitted (possibly very recently) with Urie's Eastleigh superheater with extended smokebox. It took until Maunsell's time for the hot axleboxes to be cured by fitting mechanical lubricators and for the appetite for coal and water to be curbed by the simple fitting of a stovepipe chimney. (T. J. Edgington Collection)

from Scotland to assist him in the process. Notable amongst these were William Montgomerie, George Wheatley, Robert Urie in 1897 and John Reid who became his chief draughtsman.

Eastleigh – and standardisation

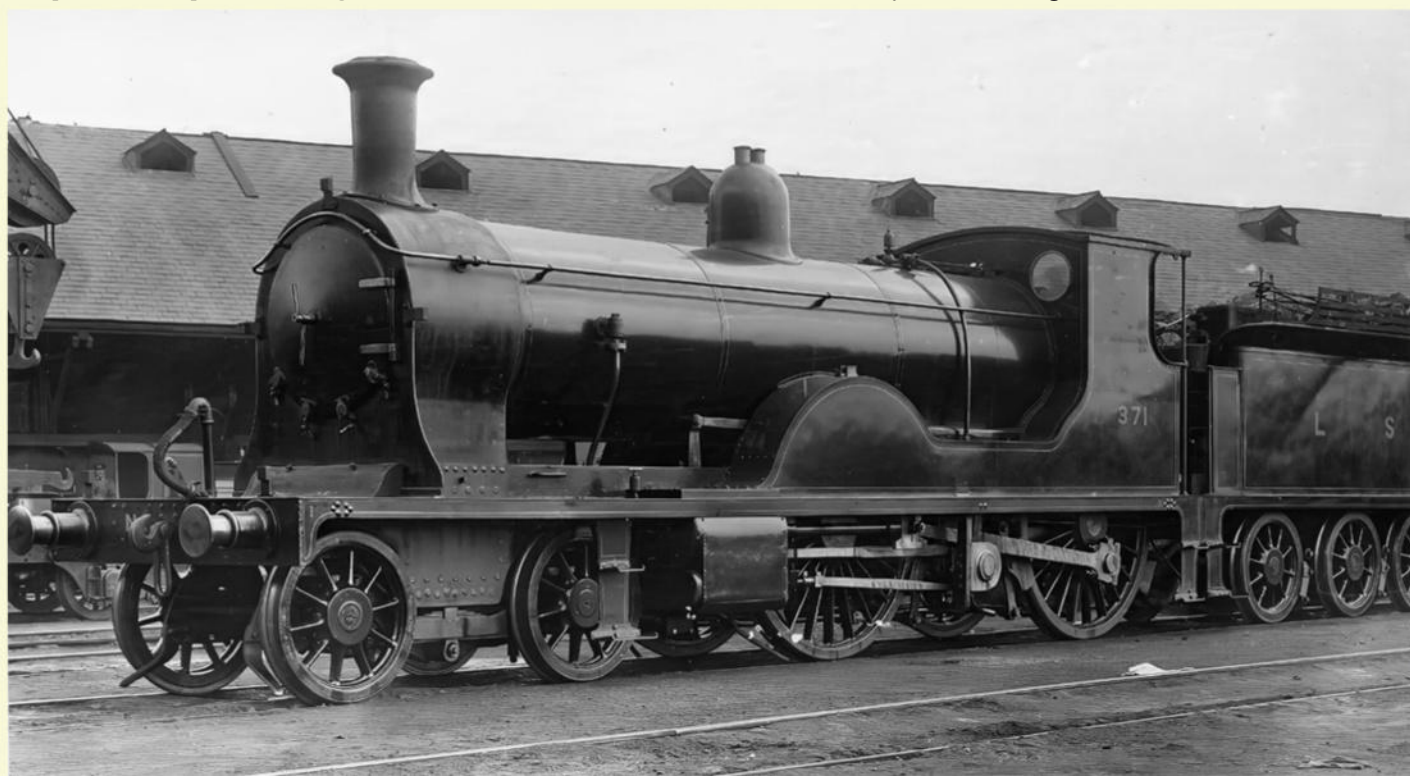
The solution to the problem of Nine Elms was the construction of a new works at Eastleigh authorised in 1898. It is interesting that notwithstanding this decision in 1898, Drummond himself wrote an article for the *Railway Magazine* in 1902, describing in glowing detail the layout and operation of Nine Elms Works, most of it dating from 1865 when Joseph Beattie improved the original

site, equipping it with much modern machinery. Work on the new Eastleigh Works was slow, completion taking until 1912. Construction on essentially a greenfield site, one of the requirements was to provide housing for the workers, some of whom were more Scots recruited to replace 'soft southerners' who were sacked. The new foremen assisted in the regime change by introducing a firmer style of management characterised by threats and shouting. No-one, it seems, was immune from the effects of the new broom. Enginemen soon became aware that things were different when Drummond's engines were built with left-hand drive, which was not what they

were used to. The performance of the engines themselves probably generated few complaints, not that his predecessor Adams's engines were in any way deficient.

Many standardised parts were used: a cylinder block 18 $\frac{3}{4}$ in 26in with slide valves and many interchangeable motion parts were used on 0-6-0, 0-4-4 and 4-4-0 designs, as well as the first of the 4-6-0s; two sizes of boiler and firebox sufficed for all designs until larger engines were introduced and all but the first ten 4-4-0s had coupling rods 10ft long which permitted a deep, well-ventilated firebox. Coupling rods of this length were considered by many at the time to be at risk of flexing, but with strong construction this did not happen. Components were robust and careful detailed design work ensured that regular maintenance was much easier to carry out than on earlier designs. The result was a fleet of modern, reliable engines. E. A. Langridge took up employment with the LSWR as an apprentice just a fortnight before Drummond's demise. He never met the great man, but once observed him hobbling across the yard, he thinks shortly

Six 4-2-2-0 double singles were built, one in 1897 classed T7, and five more in 1901 classed E10. Probably inspired by Webb's double singles on the LNWR, but not adopting Webb's compound principles, the design was led by the requirement for maximum grate area which was achievable on engines with low-pitched boilers by extending the length of the grate (the width being restricted by the gap between the frames). The reluctance to employ long coupling rods due to the materials then available risking breakage resulted in the adoption of the 4-2-2-0 configuration rather than 4-4-0. Stephenson link motion drove the outside cylinders, whilst Joy's valve gear drove the two inside cylinders. T1 No.720 was fitted with a larger boiler but the E10s remained as built until they were withdrawn in 1926/7. (Pendragon Collection)



after the scalding accident. Langridge gives us useful insights into the aspects of design which reduced maintenance costs. Work involving removal of wheels, and any brake or spring work, was greatly more straightforward on Drummond's engines than on those of his predecessor William Adams (whilst not underestimating the excellent performance of that designer's engines). Not everything was straightforward though: a bronze feedwater pipe inside the firebox tubeplate was difficult to work on.

Economical driving

Another of Drummond's priorities was focussed on minimising his engines' coal consumption in view of the relatively high cost of coal to the LSWR. With no locally available sources, Welsh coal was brought by ship to Barnstaple and Durham coal by sea and Thames lighter to Battersea. In focussing on economy of coal consumption, Drummond followed in the footsteps of his predecessors William Adams and Joseph and W. G. Beattie. To achieve this Drummond's engines featured cross water tubes in the firebox and feedwater heaters which required feedwater pumps in the tender, as the hot water precluded the use of injectors. He had already abandoned the idea of compounding to achieve economy of operation and was never an advocate of superheating, preferring instead to promote driving techniques using short cut-offs – a technique to which Scottish drivers were evidently resistant. A further illustration of the importance Drummond attached to economy of operation was that emitting visible smoke or wasting steam through the safety valves was a carpetable offence and, as Hamilton Ellis says, Dugald Drummond's carpet was a very uncomfortable one to stand on. Drivers were discouraged from thrashing their engines, but they were nevertheless expected to keep to time by driving hard and fast.

'The Bug'

Drummond himself ensured that his standards were upheld. He had his own conveyance constructed, 'the bug', a small 4-2-4 tank engine with saloon attached containing some chairs, a buffet, a lavatory and access to the footplate. Again, recourse to Hamilton Ellis's words to convey a scenario which footplatemen must have dreaded: "On the four track main line down to Basingstoke, enginemens might be loafing down the line of a peaceful summer morning when suddenly and stealthily 'the bug' would be alongside, (80mph was easily within its capability) with the droplight down, and a fierce bearded face glaring out. That was the time to be acutely conscious of an untidy footplate, a drift of dirty smoke or a blowing gland; a gust of sultry language would boom across the flying six-foot and a peremptory summons would follow."

And "William Eaton, sometime foreman of 'the bug' has given some amusing reminiscences. One morning the engine was going down with Drummond and some guests to Exmouth...; the peace



The man – Dugald Drummond exudes an air of assured authority, and possibly some impatience, in this posed shot.
(Pendragon Collection)

was broken by a gruff shout through the trap 'Hey, we're no' going to a funeral!' The driver let the locomotive go, as she could, until the Voice spoke again: 'Hey! I'm nae wanting tae go tae hell yet!'"

The arrival of 'the bug' was not the only way Drummond struck terror into employees. He was apt to turn up in unexpected places. Once, when a suburban train was held at signals in thick fog, he loomed up the engine steps. The young fireman was filled with nerves, spilled the coal and let the engine lose steam. The driver, an experienced and fearless hand, sensing Drummond's wrath was coming to boiling point, said: "the lad's all right, if you'll only let him alone". This incident, which ended favourably, illustrates that the portrayal of Drummond as a tyrant is an over-simplification. Notwithstanding his strict enforcement of sobriety (he was an abstainer) and passing signals at stop, he was also capable of understanding and compassion.

Hamilton Ellis again: "A Salisbury driver was reported for running through signals, and was summoned to the carpet. He made no excuse and admitted the offence. Drummond was interested. Fatalism appeals to a certain type of Scots mind. He asked if the fireman had somehow distracted the driver. No! Had smoke been beating down? No! Signals, said the driver, were to be obeyed for reasons of life and death. There was no excuse for running through them. Surely there was more than fatalism in this! Drummond asked about the driver's private life. The driver said that he had just lost one of his children and that another was dangerously ill, but that, he persisted, was no excuse. It had nothing to do with missing signals. 'Man' growled Drummond, 'You're exonerated.'"

The first designs for the LSWR were 30 0-6-0 tender engines (Class 700 or 'Black Motors'), 105 0-4-4 tanks built between 1897 and 1911 (Class M7) and 66 4-4-0s built between 1899 and 1901 (the

famous T9s or 'Greyhounds'). Survivors of all three classes were still at work until five years before the end of steam on the Southern and indeed some M7s escaped the cull at the end of 1962 of most pre-grouping designs, as well as the 'Schools' and 'Lord Nelsons', and survived until 1964. The T9s, noted for their free running, remained in charge of some of the main expresses west of Salisbury until the arrival of the Bulleid Pacifics. Many years later in 1957 Hamilton Ellis recalls seeing a T9 on a Brighton to Bournemouth express.

Lake meets Drummond

It was Drummond's period at the LSWR with which we are most familiar, partly because of the longevity of his designs, and because it is from that era that we have the written evidence of those who met him. Charles S. Lake knew Drummond when he was still at Nine Elms. Drummond was a neighbour of Lake's father in Surbiton, so that connection probably resulted in the meeting between the two men. Drummond was not noted for encouraging visitors from outside and the appointment suggested by Drummond was just about as inconvenient as it could be, from Lake's point of view. Lake was advised by someone he knew at Nine Elms that it would be unwise to suggest an alternative as that might end in his "never getting a chance to meet the old man again". At this first meeting, expecting Drummond to be dour, Lake found him friendly and later when in the wheel shop, when Lake was talking to the chief design draughtsman G. R. Sisterton, Drummond came along and suggested he stay to lunch. Lake obtained useful information about shop methods practised at Nine Elms, as well as some photographss. Following a second visit more material was obtained, which formed the basis of an article for a foreign journal the author of which had been referred to Lake by Drummond.

A third visit ensued after Lake was approached by a salesman from the USA hoping to demonstrate a model of a boiler tube cleaner. Although reluctant to ask for a meeting with Drummond on behalf of someone he hardly knew, Lake thought the device had some merit after seeing it, so agreed to write to Drummond to ask if he would receive them. When Lake and the salesman arrived in the great man's presence, Lake found Drummond to be in a very different mood compared with his first two visits. Without rising to meet them, Drummond's only reaction was to say "Well?" Somewhat disconcerted and embarrassed, Lake explained briefly the reason for the visit but was cut short by the salesman who, himself not at all disconcerted, launched into a description of the device and its virtues, while fingering the string securing the model in its case, without apparently realising that Drummond was becoming more and more impatient. Before long Drummond interrupted and began his own dissertation on locomotive boilers, their design, construction and purpose,



and especially of cross-water tubes in the firebox, of which he was a fan. Without giving the salesman further time to speak, Drummond rose, saying he had no more time that morning, ringing a bell summoning his chief clerk, as an indication they should leave, if further indication were by then needed. The situation was somewhat remedied as, approaching the gates to leave, they were summoned from behind and invited to demonstrate the device to Mr. Sisterton, the Chief Draughtsman. Lake likens the device to a small hammer head, attached to a length of flexible armoured tubing through which compressed air would pass and cause the hammer head to vibrate; in turn this would cause soot on the inside, and some scale on the outside, to be dislodged as it was pushed along the tube.

In a subsequent meeting with Sisterton, Lake told him about Drummond's behaviour. Sisterton thought that "Dugald was in one of his most obstinate moods" and had probably decided beforehand that it was Sisterton that would examine the appliance. On reflection Lake concluded that he should not allow the incident with the salesman to overshadow the friendly manner in which Drummond had afforded Lake the opportunity to ride on his engines and help given to him in other ways.

Last designs

The introduction of corridor rolling stock in the early years of the twentieth century led to heavier trains. Drummond had experimented in 1897 and 1901 with two classes of 4-2-2-0 double singles with four cylinders and large boilers. There was one engine of Class T7 in 1897 and five of Class E10 in 1901. In this he might have been influenced by Webb's work on the London & North Western Railway, although he

Caledonian Railway 0-6-0 No.361 (ex-691). Drummond's standard goods engines were the '294' and '711' Classes of 0-6-0, nicknamed 'Jumbos'. They were introduced in 1883 and construction was continued by Smellie, Lambie and McIntosh after Drummond's resignation from the company. A total of 244 was built. Withdrawal began in 1948, but the last survived until 1962. The LSWR '700' Class in its original form closely resembled the 'Jumbos'. (Pendragon Collection)

did not go so far as to experiment with compounding. The type was not developed further and Drummond, like many of his contemporaries, decided that the heavier loads required a 4-6-0 (Atlantics were another of his intense dislikes, so he was not tempted in that direction). First, five large-boilered four-cylinder engines of Class F13 were introduced in 1905. They had 6ft diameter driving wheels and were intended for use west of Salisbury. Their divided drive (inside cylinders driving the front driving wheels, outside cylinders to the rear of the bogie driving the centre wheels) was intended to reduce wear on the track at speed. Despite this and the large boilers, they did not run well and were plagued by hot axleboxes. The second attempt was a single engine of Class E14 with smaller cylinders. This was even worse. The third attempt, in 1908, consisted of another ten engines with 6ft driving wheels and 15in cylinders (the earlier designs had 16½in cylinders) and a smaller boiler. Five of these, Class G14, had tenders fitted with water scoops for the planned introduction of water troughs west of Salisbury (they were never installed). At least these engines were no worse.

Redemption came with his last 4-6-0 design, ten engines of Class T14, and

nicknamed 'Paddleboxes', 'Paddleboats' or 'Doublebreasters' because of their distinctive appearance. With higher boiler pressure (200lb/sq in against 175 of the earlier engines), 6ft 7in driving wheels and retaining divided drive, although with all cylinders in-line below the smokebox, they enjoyed a long reign on express services, benefiting from Urie's application of superheating and mechanical lubrication, with other modifications by Maunsell. All but one (destroyed in an air raid) survived to see nationalisation. The problem of hot axleboxes was never overcome.

Drummond's last design in 1912 reverted to the tried-and-tested formula of the 4-4-0. The D15 was the ultimate development which had started with the 'Abbotsfords' for the North British. R. W. Urie and his son D. C. Urie as chief draughtsman were keen to develop the design, with established modern improvements. They hoped to include superheating, Walschaerts valve gear with piston valves, larger bearing surfaces and a more steeply sloping grate. Drummond had still not been converted to the use of superheaters, and insisted on cross water tubes in the firebox, which had adorned most of his engines. The other features were included. A large engine, with 6ft 7in driving wheels, the D15 had a big boiler pressed to 200lb/sq in which was pitched higher than the boilers of earlier 4-4-0s except the L12. It is the higher centre of gravity which was suggested as one factor in the disastrous Salisbury derailment on 1st July 1906, when an L12 hauling a boat train overturned at an estimated twice the speed limit on the curve in Salisbury station. It was, however, the speed which was considered to be the principal cause of the accident. Withdrawal of the D15s took place between 1951 and 1956. By that time all Drummond's 4-4-0 designs except





Five 4-6-0 locomotives of Class F13 were built in 1905. They were designed for the increasingly heavy trains west of Salisbury with driving wheels of 6ft to deal with the steep gradients. Their performance was disappointing and after a year they were employed with more success on coal trains between Salisbury and Southampton. The housing for the firebox water tubes is clearly seen in this view of No.330, as is the curious configuration of the valve gear, with the Walschaerts valve gear below the piston. Inside cylinders had Stephenson link motion which could explain the sluggish running, but there were steaming problems caused by a restricted ashpan, as well as high coal consumption. No.333 was fitted with a superheater by Urie, but by 1924 the five were withdrawn and rebuilt into the H15 Class by Maunsell. In this form they survived until the mid 1950s. (John Alsop Collection)

The D15 was Drummond's last design – ten engines introduced in 1912. Walschaerts valve gear with piston valves, larger bearing surfaces and a more steeply sloping grate brought the design up to date, whilst retaining the familiar Drummond profile. There was still, though, an adherence to water tubes in the firebox and it was left to Urie and, later, Maunsell to fit adequate superheating requiring an extended smokebox. Their performance was excellent on the Portsmouth line, where they held sway until the arrival of the 'Schools' Class, and to Bournemouth. Withdrawal took place between 1951 and 1956. No.463, the first of the class, is seen possibly at Eastleigh after being fitted with a Urie superheater. The higher-pitched boiler made necessary due to the more sharply sloping firegrate is evident. (John Alsop Collection)

the T9s had been withdrawn.

Drummond is not alone among his contemporaries in failing to produce a 4-6-0 which matched the excellence of earlier designs. His legacy, though, is rightly remembered for his many designs which were robust, economical, easy to maintain and long-lived.

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A contemporary postcard using typical Rowland Emmet drawings.
(Author's Collection)

Was there really an Emmet Railway and where could it be found? Well, it did exist in south London and though it often referred to as the Emmet Railway it was not actually built by anyone with that name. It was, however, inspired by the cartoons of Rowland Emmet who had been a draughtsman working for the Air Ministry. In his spare time he used to draw cartoons with outlandish-looking mechanical devices which may owe something of their origin, or at least the inspiration for them, to W. Heath Robinson who was also known for unusual mechanical creations. From 1939 to 1950 many Emmet cartoons appeared in that sadly missed magazine *Punch* and many of these incorporated a railway theme and these evolved to become a unique blend of extraordinary looking trains with engine bearing ludicrously tall chimneys (though perhaps reminiscent of locomotives of the 1820s and 1830s) and silly-sounding names. Some of these drawings became the basis, in 1947, for a sketch called 'Between the Lines' which was part of a theatrical revue called 'Tuppence Coloured' which featured an eccentric signalman at Friars Fidgeting signal cabin.

At that time we find that Britain was regarded as a rather grey, dismal and austere country which was trying desperately to overcome the effects of the Second World War. In official circles it was felt that 'something must be done' to get the country back on its feet again and to forget the years of privations which the citizenry had endured since 1939. Thus the consensus of opinion was to hold a 'Festival of Britain' in 1951, this, of course, being just 100 years since the Great

Engine No.1 Nellie (one of those involved in the collision) waits at the end of the line as passengers disembark.
(Author's Collection)



ACCIDENT ON THE EMETT RAILWAY

BY ALISTAIR F. NISBET

Exhibition in Hyde Park which had been masterminded by Prince Albert. The idea had first been floated as far back as 1943 but it was in 1947 that Herbert Morrison MP, as Lord President of the Council, instigated a committee under General Lord Ismay to design and progress such a Festival. By the time it opened the Festival might have been regarded as something of an antidote to the Korean War where fighting was at its fiercest.

This time the Exhibition would be distributed over a number of different sites in London, the main one being on

the South Bank near Waterloo station with the emphasis being on British arts, architecture, crafts and engineering capabilities. Here a number of brand-new steam and diesel locomotives were on display including No.70000 *Britannia*. The site opened on 4th May and remained on show until 30th September.

Two other sites in London were at Poplar and South Kensington with another in Glasgow, while a travelling exhibition aboard the Cunard Line's RMS *Campania* visited a number of ports and arts festivals were held in various towns and cities. Regrettably the whole idea of the Festival became mired in party





Engine No.3 *Wild Goose* with a youthful-looking driver, being inspected by a schoolboy and his father.
(Phil Tait/The Transport Library)

politics, with Churchill's Conservative Party describing it as a "three dimensional Socialist propaganda exercise". In spite of this opposition there was also a 'fun' element to the Festival and this was located a few miles upstream at the Battersea Pleasure Gardens with various fairground-type rides – it remained open until 3rd November.

One of the most popular attractions here was a narrow gauge railway, known as the Emett Railway, although he had no hand in its construction other than to provide the inspiration for it. Officially it was known as the Far Tottering and Oyster Creek Railway although the original intention was that it would be the Far Twittering and Oyster Perch Railway which had appeared in one of Rowland Emett's early books but the name was changed to avoid a clash with a radio comedian, Gillie Potter, who made his broadcasts from the fictional village of Twittering. As built the railway traversed much of the southern side of the site on a 500 yards long single track route with a two-platform station at both ends. *The Times* had noted on 3rd April that the buildings at Battersea were intended to be a complete contrast to those at the South Bank, being less about architecture and more of a stage set in character. Some were quite fantastic in themselves, not least amongst these being those for the Emett Railway.

As with Emett's drawings, this featured three fantastic-looking steam-outline locomotives (powered by

hidden diesel-electric engines) with extraordinarily tall and bell-mouthed chimneys and large cabs hauling a most unlikely-looking set of carriages. Each one looked nothing like either of the others and they were named *Nellie*, *Neptune* and *Wild Goose*. The Rowland Emett Society website has recently suggested that they might have been inspired by some of the more bizarre-looking locomotives used on various Colonel Stephens light railways. *The Tatler* was a mildly satirical publication and on 11th April it claimed that there had initially been "outrage that a steam pipe should be twisted into an octopus-tentacle shape and that an upright pillar should lean at an angle of 74 degrees. The propriety of workmanship was offended". However, the engineers were now fully intent on making the construction look 'almost proper'.

Not all the funfair was ready for public use when the Gardens opened on 3rd May although the railway proved to be very popular with early visitors. Not all of these chose to ride the trains for there were many spectators and some of those chose to ignore the warning notices which read "It is forbidden to tease the engines." Speeds were no more than 7 to 8mph and trains were braked hydraulically. Apparently there were some Heath Robinson-like emergency rescue devices labelled "in case of emergency do not disturb the field mice".

A fatal collision

A couple of months after the opening day the organisers were beginning to feel that, in spite of its political opponents and detractors, the Festival was becoming a success when something happened to shake the confidence of officials and visitors alike – a fatal

crash occurred on the Emett railway in the early evening of Wednesday 11th July. A lady passenger, 33-years-old Mrs. Mavis Roberts of Westcliff-on-Sea, Essex, was seriously injured and taken to Battersea General Hospital where she died some 2½ hours later. Thirteen other passengers, including Mrs. Roberts's seven-year-old son David, were less seriously injured and after treatment were not detained in hospital. The London Fire Brigade had attended and cleared the wreckage using its heavy lifting tackle.

This event was reported in newspapers around the country, in greater detail in some than others; in summary a collision occurred between the two stations when the driver of one train failed to observe that the second train had arrived at the terminus where he was waiting and set off, meeting that second one head-on. A curious feature of this collision is that it was not investigated by one of the Ministry of Transport Railway Inspectors but by the Metropolitan Police – perhaps this was because it was treated as a road traffic collision? Indeed there seems to have been no referral to the MoT or HMRI. The witness statements and various other documents are now available to see at The National Archives.

The railway reopened for traffic using *Neptune* and six carriages on the Thursday afternoon; one of the engines involved in the crash, *Wild Goose*, was sufficiently badly damaged as to have to be returned to the manufacturers in Southport for structural repairs. The second engine had been less badly damaged and could be put back into service quite quickly.

A few days after the accident occurred

the police at Battersea received a memo from Supt. L. L. Grace of the City of Portsmouth police enclosing a Witness Statement from a local resident, Frank Charles Smith, who had been sitting in the Tea Garden at Battersea Park watching the train on the miniature railway. There was an opening of about 20 yards between the various sideshows and a low fence alongside the railway. He had seen a train pass across the opening from his left to his right at what he thought would have been about 6mph and within a second or two of it disappearing from his sight he heard a crash and saw a cloud of dust. From the top of the cloud he saw a tall chimney of a locomotive which then wobbled and fell towards the fence on the outside of the exhibition.

Smith then jumped over the fence and could see that passengers had been thrown out of the train alongside the track. Going to the front of the train he could hear children screaming, a boy and a girl being trapped by the tender which was then on top of the first carriage – they were face downwards across the rear seat of the carriage. He tried to lift the tender but was unable to do so by himself but shortly afterwards other people came and lifted it enough for him to pull the girl out. When he had done so he saw a lady lying on her back with her legs towards the engine. He carried the

girl to the Tea Garden where first aid was rendered until an ambulance arrived. He did not return to the crash site.

The inquest

An Inquest on Mrs. Roberts was opened on 18th July in front of the Deputy Coroner, Mr. G. W. Robertson, at which an Accidental Death verdict was recorded. The details which follow have been compiled from the Witness Statements given to the police and various newspaper reports of the Inquest. It is noticeable that the Witness Statements were written in a very traditional fashion. Both engine drivers, 35-year-old Albert Lenham of Battersea and 18-year-old Ronald Mason of Chelsea, had made formal statements to the Metropolitan Police and at the Inquest repeated their recollections of how the collision occurred. First up was Ronald Mason who had been driving on the railway for eight days when the collision occurred. He had been working *Nellie* and said he was expecting the second train to wait at Far Tottering station until he had arrived at the opposite platform. He related that about 7.00pm, when he was opposite Forte's Tea Garden, he saw *Wild Swan* being driven towards him about 30 to 40 yards away. He put his locomotive into reverse gear and applied both hand and foot brakes but his train still went forward in a skid. He saw the other driver jump out and after the collision he did likewise. He saw that the back of his engine had reared up on to the first coach and that four passengers were trapped in it. When

he called for help other passengers came out and supported the weight of the engine while the trapped passengers were released – they were two little girls, a boy and a lady.

Driver Lenham described himself as a 'lorry driver, miniature engine driver and general handyman' and related that he had started the day on *Neptune* but that had developed brake problems so was taken out of service. It was while he was helping to repair it that he was told by the foreman to relieve one of the two other drivers on duty so he could take his evening meal. He had taken over *Wild Goose*, going light engine from Oyster Creek to Far Tottering and he freely admitted that he had failed to check whether the opposite platform was occupied. There he had simply coupled on to his train and set off immediately tender first, expecting that *Nellie* would be waiting at the far end of the line. He would normally have checked to see whether the other train had arrived but on this occasion he was distracted by having come light engine from the shed. He thought that his mind was still partly trying to work out the best way to repair the third engine.

On realising that the points were set on his favour he set off immediately without checking the other platform. However, when he reached a straight length of track he saw *Nellie* heading for him about twenty yards away. He applied his brakes and put his engine into forward gear but to no avail for his wheels also locked up. In his opinion

An unidentified lady passenger is waiting at the Far Tottering station – maybe she was the photographer's wife?
(Phil Tait/The Transport Library)





Engine No.2 Neptune, which bore the brunt of working the service after the fatal collision until the other two engines were repaired. Although built from new material it was jokingly said to have been built from salvaged parts of an 1812 steamboat and was "ideal for sea-side excursions". (Author's Collection)

the pointsman ought to bear some of the responsibility for allowing him to continue on the line. Interestingly Driver Lanham said that when three trains were running a train staff system was used, this being handed "to the pointsman in the tunnel to be given to the driver as his All Clear but with a two train service this system does not apply". On this occasion the pointsman in the tunnel allowed him to pass through it and over the level crossing.

Harry Barlow was a director of SNB Miniature Railways Ltd. of Southport and had 41 years' experience of building and operating such lines and that the system had been regarded as "pretty well foolproof". He had supervised the construction and maintenance of the Emmett Railway. He said the two stations had island platforms with a run-round loop on each side and described the different operating methods for one, two and three train services. All drivers and pointsmen were issued with written instructions for which they had to sign and new employees were instructed by an older employee – presumably he meant more experienced. A driver was only allowed to leave a station once the other train was occupying the other platform.

When he learned of the collision he immediately went to the Gardens and inspected each engine and was of the opinion that the driver of *Nellie* had done everything correctly in attempting to stop his train. He found that the hand brake on *Wild Goose* was 'on' but the controls were in a neutral rather than reversed position. This engine had toppled over on to its side, the tall copper chimney being battered and the batwing cab roof was crushed and broken. The first carriages in both trains were splintered. When questioned by his lawyer, Mr. N. Richards, whether the human element had contributed to the collision in that

the driver of *Wild Goose* forgot to check whether the other platform was occupied he replied "That is so".

There had been much press speculation and, in view of certain wildly inaccurate statements which had been published, both Barlow and Richards were at pains to make it very clear that Rowland Emmett himself had no involvement in the running of the railway. Having heard all the evidence and the jury's verdict the Deputy Coroner remarked that it was "the human element which had managed to defeat an otherwise almost foolproof system".

The police reports

After the Inquest was concluded a formal report of the incident was sent from Lavender Hill police station to the Chief Inspector of CID which recorded all the information then known including that Driver Lanham was responsible for the collision and that he "failed to take full emergency measures for stopping his train". The police had been notified of the incident, by an unidentified visitor, at 19.26. The first ambulance had arrived eleven minutes later. Some of the injured were taken to Battersea General and some others to St. Thomas's hospitals. Assistance had been given by St. John Ambulance Brigade and Red Cross first aiders. The London Fire Service was on site by 19.30 and was able to lift the two damaged engines. News of Mrs. Roberts's death had been received at 20.55 but it was not until 01.00 the following morning that they were able to inform her husband of this – he worked at the College of Aeronautics at Cranfield near Bedford.

Copies of various statements were attached "for record purposes" including details of the entry in the occurrence book of the police station. This listed all those who were injured, most being children aged four to fourteen apart from an of-

duty police constable from West End Central station who received a cut on his left hand while helping with the rescue work.

The aftermath

The collision was the subject of a Parliamentary Question on 31st July when Gerald Nabarro, MP for Kidderminster (and later President of the Severn Valley Railway) sought a statement from the Lord Privy Seal. The response laid the blame fairly and squarely on Driver Lenham, saying there was no signalling, nor electrical or mechanical devices, to control the traffic. The Minister was able to confirm that so far as danger was concerned Mr. Nabarro had only to read the report of the Inquest to find that the jury had nothing to add to its verdict of accidental death.

An announcement at the end of August said that the millionth passenger, seventeen-year-old Miss C. Lawrence of Ilkley in Yorkshire, had ridden on the Emmett Railway and was rewarded with a miniature lamp and shade designed by Rowland himself. As for the Festival as a whole no fewer than 6,039,196 people had visited it so far – just one more than for the whole duration of the 1851 Exhibition.

The Government had called a short notice General Election for 25th October 1951 and just before the voting day a decision had been taken that the Pleasure Gardens element of the Festival would be allowed to remain open for the next five years and a new Parliamentary Bill to that effect would be presented shortly. Although the Labour Party lost that election by seventeen seats, the new Government seems to have decided not to oppose this and the Gardens, including the railway, were duly opened from 24th May to 18th September 1952. The railway was to be joined by a 'Mississippi showboat' moored in the river alongside the gardens as well as another of Emmett's creations – a biplane.

The Gardens and railway were not such a draw by then, however, and a reporter from the *Aberdeen Press & Journal* who visited in mid-July found he was the only passenger. Nevertheless in late September the Borough of Hampstead took some of its residents on an outing to the Festival Gardens although rather fewer than the original number took up the offer. The Mayor, however, "drove his party from Far Tottering to Oyster Creek on the miniature railway", although this may just have been the local paper's reporter trying to make his copy sound a bit more interesting.

In the mid-1960s Rowlett Emmett was still designing and creating his devices and was commissioned by Honeywell to create a mechanical computer named 'The Forget-Me-Not-Computer' which was put on display in various places including in Harrod's in Knightsbridge. It was eventually exported to the Ontario Science Centre in Toronto along with a number of his other creations.



MORE OF TYSON'S TRAVELS

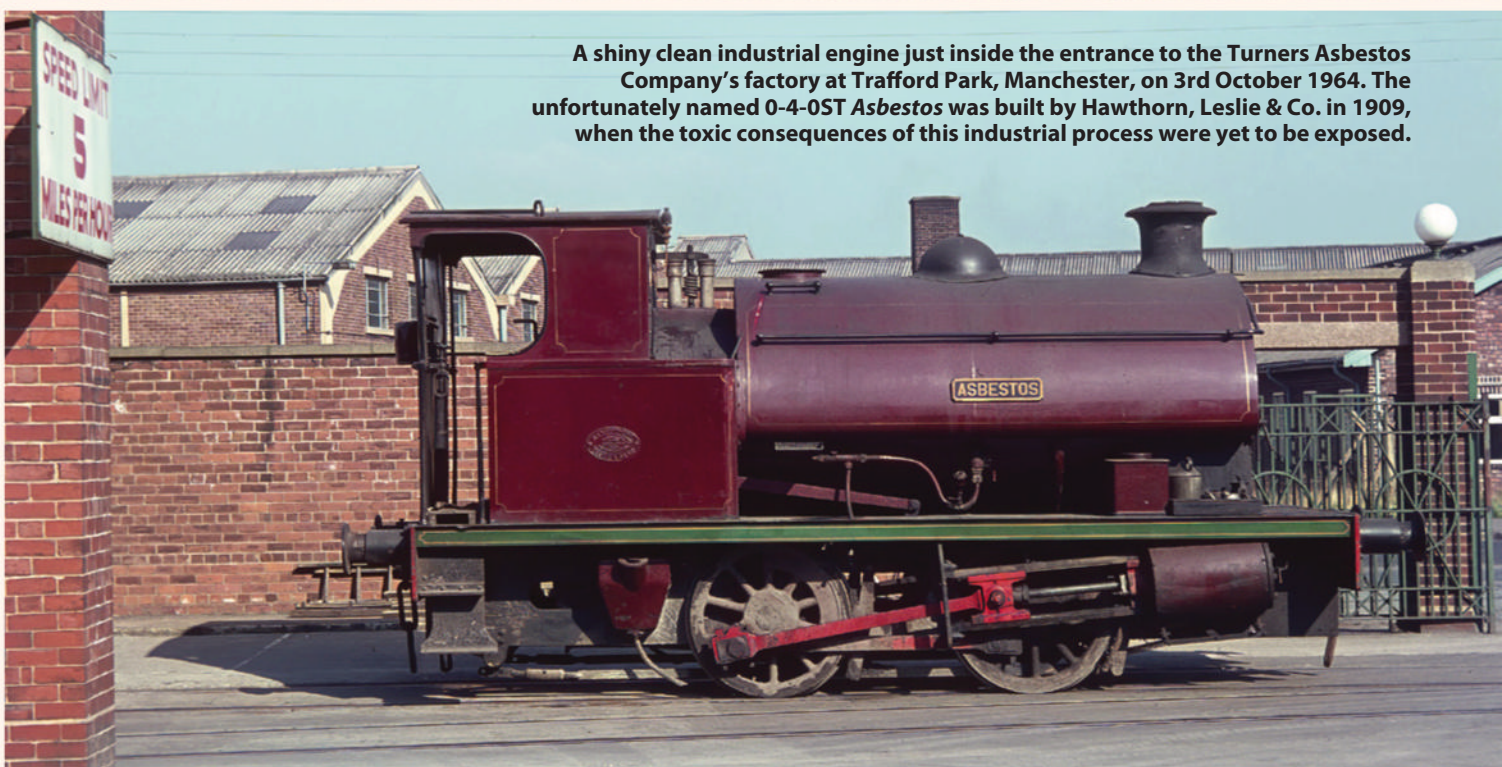
Another selection of photographs taken by **ALAN TYSON** during his railway journeys.

LNER A3 4-6-2 No.60054 *Prince of Wales* has the signal to head out of St. Neots bound for King's Cross on 31st May 1962. The driver directs a glare at the photographer...

SR 'West Country' Pacific No.34101 *Hartland* speeds along the South Western main line near Beaulieu Road with an up express on 4th August 1964.



A shiny clean industrial engine just inside the entrance to the Turners Asbestos Company's factory at Trafford Park, Manchester, on 3rd October 1964. The unfortunately named 0-4-0ST *Asbestos* was built by Hawthorn, Leslie & Co. in 1909, when the toxic consequences of this industrial process were yet to be exposed.





Living in the Manchester area, Alan found particular satisfaction in photographing the Peak Forest and Hope Valley main lines in the Derbyshire hills. LMS 8F 2-8-0 No.48324 comes to terms with the climb towards Chinley North Junction on 21st January 1967, with Chinley Churn in the background.

In the unrelenting grime of the coal industry, an Andrew Barclay 0-6-0ST (Works No.1015, built 1904) is ready to leave Shotton Colliery, Co. Durham, with loaded wagons on 17th April 1969.

The 'Whitby Moors Rail Tour' of 6th March 1965 featured in the September issue but here it is earlier in its itinerary at Filey after traversing the Holiday Camp branch, about to depart for Scarborough behind LNER 2-6-0s K4 Nos.3442 *The Great Marquess* and K1 No.62005.



Artist's impression of the Hay Railway. (Author)

For the writer's 90th birthday celebrations, his family had taken him for a holiday to a hotel, just north of York, which consisted mainly of wonderfully transformed MkI coaches. Here, if one was inclined to do so, one could lie in bed and watch the traffic on the East Coast Main Line, just over the fence. Where did I want to go to celebrate my 91st? There was a number of criteria that needed to be fulfilled. I suggested the Brecon Beacons, so again the family started looking for somewhere we could stay. A bungalow to the south of Brecon ticked all the right boxes and was duly booked. This established, out came the maps, with the hope I might find something of railway interest, though I knew that railways had gone from this area many years ago. My eye caught something that intrigued me. It read "dis-sta", which I understood as meaning disused station and next to it was a telephone sign. (Why are places of interest always on the edge or in the fold of a map?) What I had come across was a very interesting railway junction which, as a previous writer had written, "was in the middle of nowhere."

The history of Tallyllyn Junction starts not with a railway but a tramway. The Hay Railway (HR) – 3ft 6in gauge – started at Eardisley in Herefordshire, in England and finished at Brecon in Wales and had opened in May 1816. Near Tallyllyn it took a right turn before continuing to Brecon. It was at Tallyllyn that the line went through a tunnel 674 yards in length. Smaller than a standard gauge tunnel it, must have been quite frightening for both horses and their handler. Being straight there was at least light at the end of the tunnel. At Brecon the line ended by the Brecknock & Abergavenny Canal where, of course, transhipments could take place. The

Tallyllyn station. The tallest building in the row is the refreshment room, the 'Refresh'. (Courtesy Llyn Syfaddan History Group/LHG)



A WELSH JUNCTION WITH A TELEPHONE BOX

BY PETER BUTLER

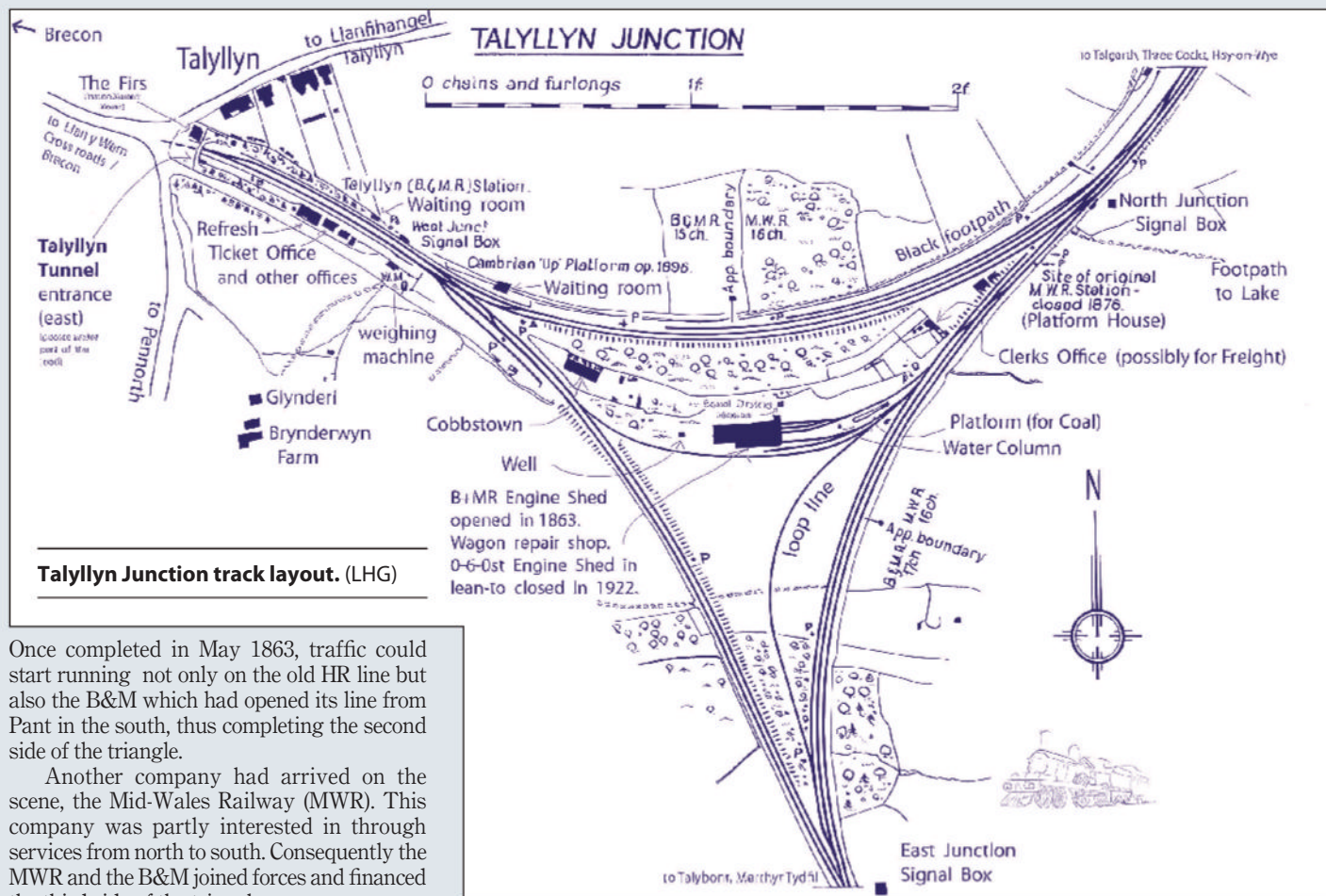
length of the line was 26 miles and this was to be extended when four years later, in 1820, another tramway, the Kington Tramway made an end-on junction with the Hay Railway, which by good luck or design was the same gauge as the Hay Railway. The combined mileage was now 36 miles which made it one of the longest tramways in the country.

For another 40 years it carried on with little competition. That was to change in 1860 when the tramroad was bought by the Hereford, Hay & Brecon Railway. (HH&BR) The plan was to rebuild the tramway to become a standard gauge railway. Little problem with the route, the problem was the tunnel at Tallyllyn.

This had to be enlarged to accommodate the locomotives and rolling stock. This was to be undertaken by another company which had designs in getting to Brecon. Meanwhile the HR continued running its business, much to the annoyance of the HH&BR, but it was only the HR that could get through the tunnel.

The 1860s was a time of much activity in the railway world. The Brecon & Merthyr (B&M) had taken over the section of the old HR from Brecon to Tallyllyn including the tunnel. The B&M was to become a major player at Tallyllyn. To reach Brecon the tunnel, as already mentioned, needed enlarging to enable standard gauge rolling stock to use it. This was undertaken by the B&M, which had to raise additional capital to pay for the work.





Once completed in May 1863, traffic could start running not only on the old HR line but also the B&M which had opened its line from Pant in the south, thus completing the second side of the triangle.

Another company had arrived on the scene, the Mid-Wales Railway (MWR). This company was partly interested in through services from north to south. Consequently the MWR and the B&M joined forces and financed the third side of the triangle.

As already said, Brecon was the focal point for these railways. So too was another company, the Neath & Brecon Railway (N&BRly) which arrived at Brecon from the west in 1867. It must have been a puzzling time for some passengers with different companies all using the new joint station in Free Street which opened in March 1871, though the station was owned by the B&M.

Meanwhile life at Tallyllyn would get busier. The B&M built a small two-road engine shed in the triangle, together with various ancillary buildings. The company solicitor of the B&M, a Mr. John Cobb, a visionary, realising what an important place and somewhat isolated area Tallyllyn was to become, had a row of six cottages built inside the triangle for the railwaymen and their families. Over time this community became a sort of mini-Derby.

Mention of Derby, home of the Midland Railway (MR) brings another player into this story. The Midland, always looking for somewhere else to extend its empire, had wanted to reach South Wales. It did this by taking over the HH&BRly part between Three Cocks Junction and Eardisley in 1874. In that same year it took over the Swansea Vale Railway and gained running power over the N&B at Brecon. It had achieved its aim in that it now could access South Wales and all its varied industries.

The first station at Tallyllyn was a small one situated near the tunnel mouth and was named Brynderwen. It appears it took its name from a local farm. It had a short life, opened in 1863 and was renamed Tallyllyn Junction six years later in 1869. There was also a short-lived station/platform on the north east curve

which had opened in 1864 and which closed in 1878.

As time went by the junction became busier. It must have presented problems for the signalmen at the three signal boxes because although the triangle trackwork was all double, all three lines into and out of the triangle were single tracked, plus the fact that you had different companies operating here and consequently, without doubt, some rivalries. To be more accurate there was an additional single line on the north east section of the triangle, described as a loop line, or an avoiding line.

In due course the community grew as the number of railway staff increased. At one time the MR had two wagon examiners based here, though whether just to examine MR rolling stock, or other companies' that passed through the junction, is not known.

A major change came in 1923 when the 'Big Four' grouping took place. Suddenly everything that worked through Tallyllyn became part of the Great Western Railway though the new London Midland & Scottish still had its running powers inherited from the MR. Little, I suspect, changed a great deal to the community at Tallyllyn. The two world

Photo set in glass panel of the telephone box showing '57XX' pannier tank No.3747 with a train for Brecon. (Author)



wars would have seen an increase in goods traffic, including troop trains running to and from Brecon where there were Barracks.

All this was to change with the arrival of Dr. Beeching and his 'The Reshaping of British Railways' report in 1963. Of course closures had already started under British Railways including two in the writer's area, namely the Kettering to Huntingdon and Higham Ferrers branches which had closed for passenger services in 1959. This period included the railways at Brecon and Talyllyn where passenger services had ceased at the end of 1962. A limited amount of goods traffic continued for a few more months. Even if they had survived, the Beeching Report of 1963 recommended the closure of many rural railway services and that would have included Talyllyn and Brecon.

So Talyllyn was left to slowly fall into disrepair and to disappear from people's memories. In 1971 two local residents, one who had lived in the area for many years, got together and formed what was to become, in 2014, Llyn Syfaddan History Group (LHG). Their aim was to collect as much of the local history for the benefit of future generations. In 2019, thanks to a grant from a Welsh National Park fund, the group was able to buy a disused local telephone box and to convert it into a mini-museum/information point. Many of the glass panels in the box now have pictures of the station when it was open, whilst inside there is a map on the wall of the local area and a box with leaflets etc of the history of the area, walks etc. Outside there is a memory

The 'Refresh' interior by Michael Noble.
(LHG)



The station in a glass panel of the telephone box with English description on the left and Welsh on the right. (Author)

seat where folk are encouraged to record their memories of Talyllyn and to put them in an adjacent collecting box. At the back of the seat is a Talyllyn nameboard.

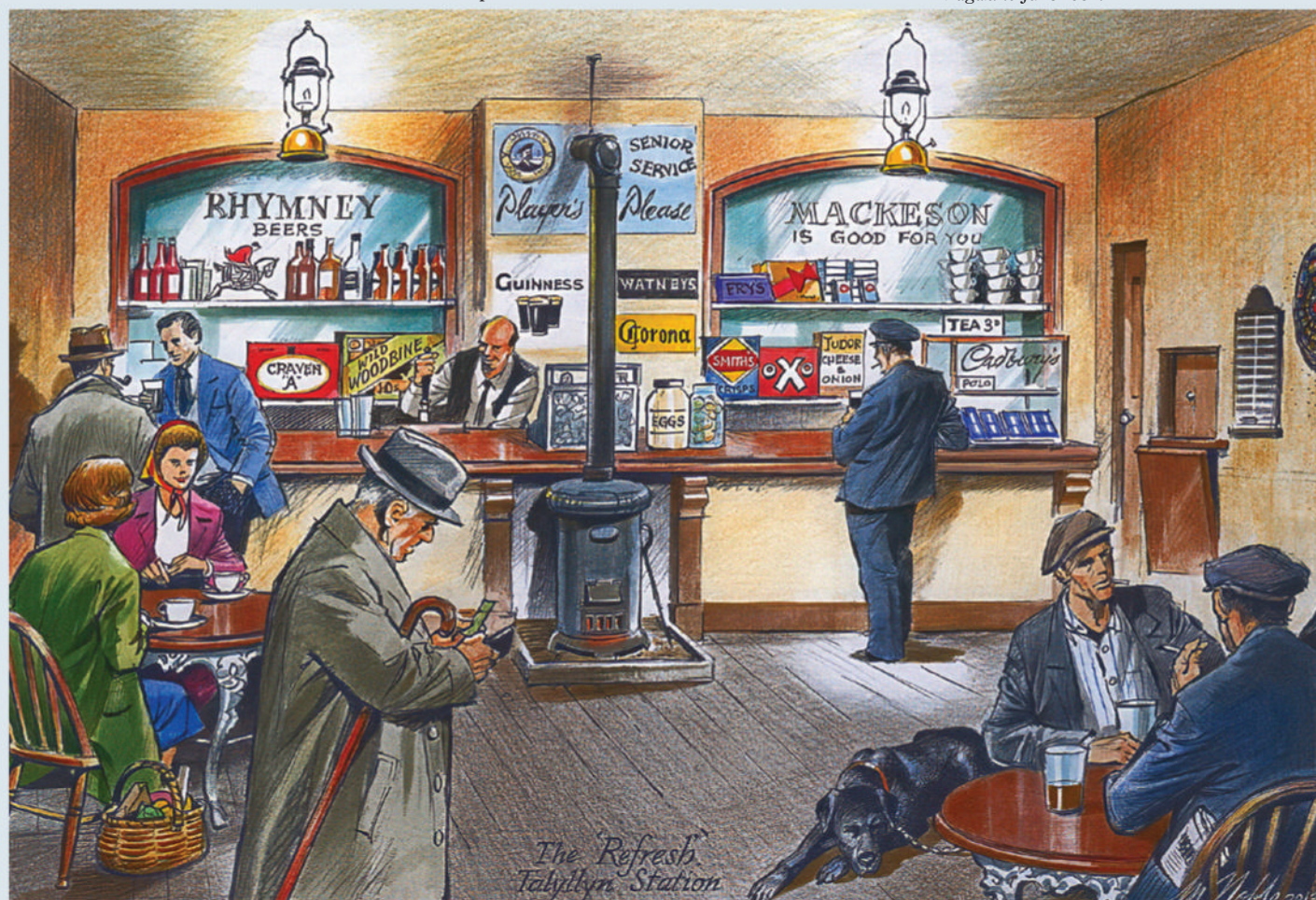
The only remaining buildings still *in situ* are the station master's house, which sits on ground above the tunnel mouth, presumably where he could keep an eye on the station, and the old refreshment room, called 'The Refresh', now a private residence. This was, for many years, the place for the social gathering of the community. Thankfully, an artist has been able to draw a picture of the interior based on memories of a person who knew and used it during the last few years it was open, when a cup of tea was 3d!

Finally, the Brecon Mountain Railway, which runs from Pant to Pontsticill, uses part of the old B&M trackbed.

In attempting to abridge the convoluted history of the railways of this area, I may have made mistakes and omissions, for which I apologise. I am indebted to Messrs. Roger Reese and Roger Young of the LHG for being willing to supply me with information and photographs and to Barry Taylor for his help.

Further reading

The Brecon & Merthyr Railway, D. S. M. Barrie. Oakwood Press.
Wikipedia extracts.
'Talyllyn - A Rural Welsh Junction', *Railway Magazine* June 1951.





A 'TRAMM' TO SCOTLAND

ROSS TOMLINSON recalls an unusual journey in January 1986.

The TRAMM consists of two coupled rail vehicles, capable of being driven from either end: ie a crew cab at one end and a drive and second man at the other. It was designed to carry four 60-foot rails and sleepers. It is equipped with a hydraulic crane with lifting beam and a grab for digging. Under the main crew cab there is a system for handling the rails at ground level.

In late 1985 it was decided to move a TRAMM to Scotland and a plan was drawn up. I asked management whether it would be better to take a full two days to get the TRAMM to Scotland, as its top speed

was 50mph on level track and, to be honest, the people running trains would not want a 50mph track machine in their way. In fact, we were surprised that British Rail hadn't asked for the TRAMM to run during the night. "What about an overnight stop around Newcastle?" I suggested. The reply from our project colleagues was "No! No! No! It will be fine. There will be no problems!"

Another colleague, based at the rail-connected works of Geismar UK in Northampton, joined our team and, with the aid of many route pilot drivers, we were going to leave Thomas Hill's works at Kilnhurst, South Yorkshire, around 08.00 in

The TRAMM at work. (Author)

the morning and be in Edinburgh for around 18.00 that same evening. That would be ten hours to cover about 250 miles. So far so good.

Let me explain a small point here. I would be driving the TRAMM for the duration of the trip, with a little help from the other member of the team when safe to do so. However, we would have to be accompanied by a BR driver qualified on the routes we would be taking. These drivers are referred to as 'pilots'. A couple of days before we were due to go, ScotRail decided to send a couple of guys with us to get a feel for the TRAMM, as they were going to be part of the eventual operator gang.

The day came and we arrived on site at Thomas Hill's, made our final check and started getting the TRAMM warmed up (apart from the heating system which, at this time, was a little less than efficient and, don't forget, it was January). The lads from ScotRail arrived and we waited for our pilot to arrive. Remember the plan was promptly off at 08.00. By 08.30 no driver had appeared so, after phoning BR, the pilot turned up at 09.00 and by the time we had a permitted route in traffic it was about 09.30.

Our first stop is Doncaster station, via Mexborough. There are no problems as yet and the pilot instructed me to slowly go along the side of the station to the next signal. There was a trainspotter on the station who, showing too much interest in our passage through the station, walked into a lamp post and staggered around for a few steps. I am sure he recovered!

We get the signal and we are heading north again. Now it's me driving on the East Coast Main Line, remembering my days at Grantham as a lad following the route of all those wonderful Pacifics. Unfortunately, that shot of nostalgia didn't last long. Just north of Doncaster we are shunted off the main line and routed via Knottingley, Church Fenton, then back on to the Leeds main line and on to York. We

It's quite a sight crossing the Tyne as it gets dark, with all the signal lights leading into the station. (Author)





were actually routed via York north yard so the time, by now, is about 13.00, as far as I can remember.

From York we are again back on the main line heading north. At every loop we are put in to allow the next couple of expresses go past us. North of Darlington around Ferryhill we are again shunted off the main line on to old goods lines that were used for moving coal on towards Washington and Gateshead, over the King Edward Bridge to Newcastle.

We get ready for our next pilot. To this point, the TRAMM had behaved very well and, over the many sections between signal boxes, it had kept very good time. The new

Following the repairs to, and testing of, our TRAMM in Edinburgh, we then spent a week training Scotrail men on how to drive and operate the machine in Rutherglen, near Glasgow. (Author)

pilot climbed into the cab with a cheery "Evening, all." Yes, it's now dark, so the aim of getting to Edinburgh by 18.00 is out of the window. The new man said "It's getting colder and the wind has got up off the North Sea" but there's a green signal and we are off again, through the suburbs and on to Morpeth. On the way, the driver showed us where a High Speed Train had left the track and had raced up the embankment a couple of years earlier. (There was not much chance of us doing similar!)

We headed to Alnmouth. At that stage, the gradient increases to a 1 in 170 for around five miles and that's where things start to go wrong big time. I think the conversation between me and the accompanying pilot went something like this:

Me: "The speed's dropping off. We are down to about 30mph and the hydraulic pressure is down a tad."

This is us being removed from the station head shunt and setting back across the crossover on the north end of the Royal Border Bridge. We were pushed into the sidings opposite the station, a Class 20 then ran around us and off to Edinburgh. Note of interest: there were no overhead line masts at this time. (Author)

Pilot: "Is there a problem? It is an uphill gradient here but there is a loop just ahead and I think the box will put us inside." Which is exactly what happened.

Me: "We need to have a look at the drive unit and hydraulics" The pilot said "I need to talk to the box."

We both went onto the back of the TRAMM. It was pitch black and wind and rain were howling off the North Sea. I remember tipping five gallons of new clean hydraulic oil into the main hydraulic tank, just in case. A number of northbound



expresses went past and the pilot returned from talking to the signal box.

Pilot: "I have spoken to the box. If we can, he wants us to try and make it to Berwick and put us inside, as he needs this loop for a following goods train."

The signal was set and we are off. At first, the machine seemed better with the top-up of oil but, within a couple of miles and in the middle of nowhere, the TRAMM finally died. So, there we are unable to move and blocking the East Coast Main Line. I found out later that there were goods and express trains backed up to Newcastle.

We now have a conversation with the pilot on what I need to do; meanwhile, the guys from Scotland are adding up all the extra overtime they were racking up. The driver walked back to the signal phone to report our problem and give an update to the signal box.

About half an hour later the pilot arrived with the goods train that was following us. We were coupled to the locomotive and then pushed to a siding at Berwick station in double time – and a little faster than the TRAMM was designed to handle. We waited as another couple of passenger trains passed, then 'our' goods train, plus all its wagons, proceeded to shunt us from the down sidings to a small head shunt on the up road. This was at the end of the station platform, close to the Royal Border Bridge and we were uncoupled and left to our own devices.

The two Scottish guys hitched a lift with the goods train to Edinburgh. Our pilot returned to Newcastle on the next train south. There was then another procession of express trains heading north and your writer and remaining colleagues were left standing on Berwick station. So, what now?

It must have been after 21.00 by then. Our only option was to find a chippy and a hotel and then call management to tell them the news. The call went along the lines of: "Hi, we are in Berwick. No, we haven't quite made it to Edinburgh. Yes, that's right, Berwick." The air was a little blue. "Yes, the TRAMM has failed. I think I did suggest Newcastle for an overnight! Anyway, we are off for a couple of pints and a good night's sleep. I will call you in the morning and I hope you have a plan."

I then phoned home to tell my wife, Ann, about the day's problems. In my favour, I had said to her as I was leaving home that morning, "We are supposed to be in Scotland at about 18.00, but you know that could change".

First thing the next morning, after a large full English/Scottish breakfast, I called the Projects Guys. "So, what's failed?" they asked. "Not sure at the moment". Why not?" asked the boffins. "Oh, sorry. Let's see. Dead of night, howling gale, torrential rain, plus we were blocking the East Coast Main Line!" (Sometimes you do wonder about the people in the office, and their grip on reality. There's an old adage of "You might be able to give me the square root of a jar of pickles but it's the people on the ground who know how to take the lid off").

After a while, Management got back



Scotrail was going to build a new station for the Commonwealth Games in Edinburgh in 1986. After picking up 'the great and the good' at Waverley station the TRAMM proceeded to the site of the station for a 'cutting the first sod' ceremony.

to us. "Scotrail is sending a loco to collect you and the TRAMM and will tow you to Edinburgh. So go back to the station and wait." While at the station, we checked as much over as possible, but we really needed a better place to work. However, the views were stunning from the bridge over the Tweed.

Our first action was to remove the hydraulic drive system. This is a combined hydraulic pump and motor of considerable size and weight. Thankfully, the TRAMM's crane system was still in operation and made the drive removal somewhat easier. We now had to get the unit to Thomas Hill's as soon as possible and on to the manufacture for a strip-down and to find out what went wrong. We obviously had no transport with us, so we put the pump and motor in a crate and sent them off with the help of Red Star Parcels. That itself cost about £100 but the man had said for us to "get them back here ASAP". We were met by a van at Doncaster station and then we were off to the manufacturer, Sauer Getriebe, in Lincoln.

Subsequently, it was found that there was a problem with the design of the hydraulic oil tank, causing the oil to foam and not lubricate the pump and motor. The required technical modifications were discussed back at Thomas Hill's. We drew up a list of parts and alterations along with sketches on a few sheets of paper and then with the drawing office we put a working plan together. Following this, the modifications were signed off and we worked on a unit back in Thomas Hill to ensure that it was practical to carry out modifications in site conditions in Scotland and on the rest of the fleet.

Following the repairs to, and testing of, our TRAMM in Edinburgh, we then spent a week training Scotrail men on how to drive and operate the machine.

On one of the training runs between Rutherglen and Slateford PW depot in

Edinburgh, we would be switched off this line to one of the more rural lines. On one of these, we came up to a level crossing and saw the barriers go down with a car sitting there. Because we were only travelling at about 50mph, the driver had become fed up with waiting and started to go around the half barriers. When he was about half-way across, he must have seen us out the corner of his eye and he just stopped the car and stared at us. Luckily, we had seen the unfolding problem and had already reduced speed and started braking. At what seemed the last moment, he drove off.

During our time in Scotland, Projects arrived to see how things were going and tell us that, on the Friday, we were to drive the TRAMM to Edinburgh Waverley station. Once there we should pick up a number of VIPs and run them around to the site of a new station that was to be built for the Commonwealth Games. We were to set the grab up to dig the very first sod of grass for the station and then take our important guests back to Waverley. The parting comments from our leaders: "Please don't get anyone killed." "OK, we will do our best".

Just to be safe, we installed an extra emergency stop button so, if anyone did get into trouble during the ceremony (and picture-taking), we could stand out of the way but still act and save the day. Again. So here I am, picking up real passengers at Waverley station. I know it's not actually a top line express, but it would take the top billing for now.

Footnote

Exactly a week after our attempt to drive the TRAMM to Scotland, a team member and I were driving back to Scotland to start the repairs. The radio programme we were listening to stopped the music to report that the Challenger space shuttle had exploded on take-off. Sometime other people's problems seem to make yours seem insignificant.

LMS Class 5 4-6-0 No.44664 between duties on Bolton shed shortly after being cleaned. The engine's nickname at the shed came from the original 'Come Dancing' programme on TV and was 'Victor Sylvester' because the locomotive's number sounded so much like 'slow, slow, quick, quick, slow' which was a common dance step on the programme.

After the considerable flurry of Bolton Wakes Week special trains to generally far-flung destinations on the opening Friday night and Saturday, day excursions would run on certain days for those not going anywhere to stay. On Wednesday of the first week, 29th June 1966, Bolton 9K driver Brian Shaw, working his rest day, and fireman Harold Earp, signed on at 08.00 to work 1T96 Bolton-Blackpool South. They were given not one of the shed's better 'Black 5s', but what became one of the lesser distinguished Standard 5s, No.73048, from the batch of twelve which was still making its way in dribs and drabs to Bolton from various ex-Great Western depots as far south as Banbury. It was from this mpd that No.73048 heralded, having seen a few weeks' service at 9K since entering traffic there on 11th May. Although it put in good availability, it was never considered one of the best and on 1T96 that day the fireman had a 'rough trip'.

Upon arrival at Blackpool South, the station inspector asked if they were working back. A negative reply was given for (as was usual with that kind of special) a fresh set of men would travel 'on the cushions' ('as pass' in true railway terminology) for the purpose of working the train back in the evening. The outward men would similarly return on a convenient passenger train. The inspector, acting on instructions from Preston Control, posed a further question – would they go light engine to Horwich to pick up a ballast cleaner and take it to Carnforth? The answer to this one was 'yes', as long as he realised that there would be no engine for the returning 1T96. Driver Shaw could see the financial advantage of this unexpected job on his rest day and off they went.

What had to happen next was a call to Bolton mpd getting the afternoon crew, driver Fred Halliwell and fireman Harry Smith, on duty at 15.20, to bring another locomotive to Blackpool. They too were given a BR Class 5 comparatively new to Bolton, No.73066, and again one that did not find fame or distinction the way that others did. What both engines



HIGHLY IRREGULAR

STEVE LEYLAND describes how a short and easy day for a Bolton crew turned into a much longer affair, though not disagreeably.

had in common was that a friend and I had made replacement numberplates, but even these were soon stolen! Earlier in June I'd done another for No.73066 which did remain *in situ* till withdrawal in April 1967.

When I was told this story by the morning fireman in midsummer 2020, I thought it highly irregular to commandeer an engine already with booked return passenger work for something so contrasting, as described, so I spoke to a distinguished and knowledgeable former employee in Control who was not of the same opinion. As local enthusiasts we didn't like to miss any passenger work that came the way of Bolton engines, especially as all the regular work of that nature had disappeared the previous April. On the date of the Blackpool special I was on the Southern, coping Bulleids by the score, almost, so knew nothing of it. Two years later, after rescuing much paperwork from the by then closed Bolton mpd I became aware of 1T96, but not its identity. The morning fireman, Harold, revived interest with his story and an approximate date which, along with other clearly recalled detail of his, I soon found

in the 'Engines Arriving on Ashpit' book. So long after it was so gratifying to identify 1T96 and link the other information with it, but what of the second engine now needed to bring the excursion back from the coast? Brian and Harold on No.73048 got back on shed at 20.35 with a good twelve hours under their belt, the book still summarising their work as 1T96 only. Three lines further down appears No.73066 marked 'Spl' (special), much later in the evening, but with the time on shed sadly illegible through age and the ravages of improper storage of the document in the early 1970s!

I am often amazed how so much information from those days of 50-60 years ago can come to light in the present, be it from a story such as the above, a chance word or observation that together completes the 'jigsaw'. Neither of those Standard 5s to the best of my knowledge worked any other passenger duties while based at Bolton, their final shed. 1T96 did run the day after too, 30th June with No.44664 (9K) with afternoon men signing on time of 15.20 again, but not regaining the depot until 23.20. It may have been a 'carbon copy' of the 29th or with a different destination. Finding out is the next challenge!

BR Standard Class 5 No.73038 at rest on Bolton shed, looking more presentable than when it was received from Banbury earlier in 1966. (Peter Reeves/Manchester Locomotive Society Collection - 2)



Readers' Forum

Letters intended for publication should ideally add extra detail to our articles (or offer corrections of course!) and not be too long, consistent with the detail they offer. As always, we are sorry that space and time prevent us from printing them all or sending personal replies. ED.

Brent and Cricklewood signal boxes

In the article about Brent and Cricklewood signal boxes (September) the author states on p571 "one of the unusual features is the 'engine Line...'". This line, I was told, was used when a loaded train came from the north, the locomotive (especially the Garratts) uncoupled went back around the Engine Line to the shed where it could coal and water, if necessary, and it was already turned ready for picking up its empty wagon train from the Empty Wagon Sidings and could then head back north, chimney leading.

Bob Allen, by email

Todmorden and its railways

David Joy's article (September) highlights the contrasting engineering and

fortunes of the two railways west from Todmorden. Following the withdrawal of Todmorden–Rose Grove trains from 1st (not 9th) November 1965, passengers from Manchester to Burnley would have had limited options by changing at Hebden Bridge as suggested. The Copy Pit line, except at summer weekends, retained just one passenger train each way between Leeds, Bradford and Blackpool – and from 1976 even this became summer-only.

The revival of this line started in May 1984 with a morning train from Preston to Bradford and afternoon return, supported by the National & Provincial Building Society, to benefit staff commuting from Lancashire to its Bradford head office. From 1st October 1984 an all-day service of six trains both ways between Leeds and Preston or Blackpool was introduced. Initially experimental for two years under the

'Speller Act', it became permanent and with local authority support Burnley Manchester Road station (closed in 1961) was reopened from 29th September 1986, albeit served by replacement buses for the first fortnight owing to works in Holme Tunnel.

Today, in addition to the hourly Manchester to Blackburn trains via Todmorden, there are hourly semi-fast trains from York to Blackpool North via Bradford which serve a string of large population centres and are well-used. In contrast, on my first trip over the Copy Pit line on Saturday 23rd January 1965 I was the only passenger on the 11.10 from Todmorden to Rose Grove, but had five companions on the 11.31 back!

Stephen G. Abbott, Skipton

Hampshire's railways

Looking at the photograph on p620 of

the October issue, it appeared to be more recent than the date of 1906 given in the caption and on closer inspection I can make out a van labelled 'LMS' just to the right of the signal cabin, which must put the date as post-1923. Incidentally, the signal box in the photos on pages 619 and 620 is the Andover Junction 'B' box. Andover Junction was big enough to warrant two boxes, the 'A' at the north east end and the 'B' at the south west.

While the statement on p623 that the future of 'Sprat & Winkle' line was affected by the closure of the MSWJR in 1959 is true with regard to through freight from Cheltenham and the north, it is misleading as the MSWJR route did not close until 1961 and there was quite a reasonable passenger service between Swindon and Andover right up to the closure date.

Mike Barnsley, Cheltenham

BookReviews

|★★★★★ Excellent|★★★★ Very Good|★★★ Good|★★ Fair|★ Poor|

Changing Engines – The Transition from Steam to Diesel and Electric Traction in the Birmingham and Rugby Districts of the London Midland Region

By Michael Hollick, published by the London & North Western Railway Society, hardback, A4 format, 140 pages, priced £30. ISBN 978 0 9570158 6 9

This stylishly-produced book isn't intended as cosy bedtime reading; rather more it may well be set fair to become the standard work of reference on this particular episode of railway history in the West Midlands. It is particularly interesting in that the story emphasises the onset of modern traction rather than the demise of steam.

The book falls conveniently into three parts, the third of which is a series of esoteric appendices which cover such subjects as the electrical research section of the Rugby locomotive test plant, the diagrams for the supply of diesel fuel to depots and a list of dates on which overhead line equipment was energised throughout the area under consideration.

The first section of the book deals with the 1950s. The organisation of the Birmingham and Rugby Districts of the LMR is outlined and the advent of diesel traction is considered through shunters, early multiple units and main line locomotives of the 'Big Four' days and the 1955 Modernisation Plan. The second section takes the reader into the 1960s as modern traction swept steam away and the railway was reorganised in line with this modernity. Electrification features heavily in this section which has 'chapters' prophetically titled 'Re-organisation', 'Reliability' and 'Rationalisation'.

Both the 1950s and '60s sections are treasure troves of detailed railway information, guaranteed to appeal to the serious student. Loco allocations, mechanical reliability, availability, changes to motive power depots and

signing-on points, train diagrams and even the fate of the last surviving steam locomotives with the districts, they're all here – and a great deal more beside. Seek and ye shall find! – but as was mentioned at the start of the review, this is probably a book to be dipped in and out of rather than read through at a sitting.

The book is well-illustrated with photographs and plans. Your reviewer, not being a Midlander, would have appreciated a general 'system' map and some of the black and white photograph would have benefited from being printed that little bit larger – but perhaps not at the cost of the amazing factual content! A quirky colour section concludes the book and the front cover boasts a magnificent image of the 'proper' Birmingham New Street.

This is a splendid, serious book which takes a specific piece of railway history and gives it 'the works'. It really is 'the story of how diesel and electric traction ended 130 years of steam power in the West Midlands'. It most certainly adds a great deal to our railway knowledge and comes highly recommended.

★★★★★

DWM

The Battle for the Railways 1940-41

By Matthew Richardson. Published by Pen & Sword. ISBN 978 1 03610 744 4. 184pp A5 hardback. £25.00

Many books have been written about the years of the Second World War and the role the railways played along the way to victory, the Great War previously and more recently in this magazine the even earlier Boer War. This book takes a different path, concerned less with the politics, Government control and railway management, instead focusing on the railwaymen – and women – who had to actually face what was happening to the railways on the ground and deal with it.

Face it and deal with it they did. The Battle of Britain saw Germany's Luftwaffe determined to bomb the nation into submission and crippling its railway system was an essential

element towards achieving that. The sheer bloody-minded determination of railway workers at every level to keep the system functioning and keep trains running, whatever was thrown at them and dropped on them, was truly remarkable and is perhaps overdue for specific recognition. The sub-title 'How Britain's rail staff defied the Luftwaffe' is certainly apt.

The book is divided into chapters covering each of the 'Big Four'. All contained industrial centres, ports, wartime bases and populous areas which were obvious targets; the Southern Railway was destined to probably suffer most with its intense network of lines, yards and depots serving the capital, the dense population surrounding it in all directions, numerous busy terminus and suburban stations and of course relative accessibility for aircraft from across the Channel.

The accounts told are those of the railway staff, often in their own words: footplatemen who found themselves out on the line as bombers flew overhead and who had to work at night in sweltering conditions in cabs enclosed by tarpaulins to prevent the glare from fireboxes being seen by enemy pilots, who waited for hours in loops and sidings until it was safe to proceed; signalmen (and women) who worked on it their lonely and vulnerable cabins with only a steel box for shelter; porters, shunters and lads who fought valiantly to prevent and fight fires and removed bombs from wagonloads of explosives; the Herculean labours of track staff and civil engineers who restored ravaged trackwork, bridges, structures and signalling is barely believable short spans of time to return the railways to action.

It would be invidious to mention individual names but honours and awards in recognition of their actions were rightly given: George Crosses, George Medals, British Empire Medals... Scarcely a politician or senior railway manager gets a mention.

Obviously during the wartime, available photographs will have been relatively few, but those that are

reproduced are not well treated by the low resolution scans on matt finish paper. But this book is very readable and it is the historical account that matters; the indefatigable, resolute and often courageous railway workers of this nation are well served in these pages.

★★★

MB

LNER K Class 2-6-0s: From GNR to BR

By John Ryan. Published by Great Northern Books. A4 hardback, 144pp. £30.00. ISBN 978 1 914227 75 2.

The 2-6-0 became popular on the LNER from its introduction by the Great Northern in 1912 through its K3 Class express goods engines and the six K4s introduced specifically for the demands of the West Highland line. After the war a new K1 Class was prepared by Peppercorn for the LNER though not constructed until after nationalisation. All four classes feature in this photographic album, in black-and-white and colour, the illustrations being well reproduced to a good size (some full page). The format of this publisher's books will be well-known by now and fans of LNER motive power will find plenty here to enthuse over in this volume.

★★★

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The Acquired Wagons of British Railways Vol.7 Hopper Wagons

By David Larkin. Published by OPC.A4 hardback, 144pp. £25.00. ISBN 978 1 800353 38 1.

This well-established series has been adding new volumes for several years and really needs no further introduction. Volume 7 includes Coal, Loco Coal, iron Ore & Ballast and Ballast Plough Brake Vans in its coverage. All are described, illustrated copiously and listed by wagon numbers. All that any wagon researchers and modellers can want or need will be found within and no more commendation is called for.

★★★★

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EDITORIAL GUIDELINES

BACKTRACK is always keen to encourage the submission of suitable material by prospective authors and photographers but, to avoid possible disappointment, the following general notes might be helpful to indicate the preferred form which submissions should take.

POTENTIAL AUTHORS

EDITORIAL POINTERS

As hinted by its name, the magazine is exclusively historical in content, but the definition of 'historical' will be loosely interpreted and potential contributors should not feel inhibited should they wish to relate historical practices to the current situation if relevant in the context of an article; there is a degree of flexibility. As a general guideline, we take the view that at least ten years should have passed before a subject is appropriate to BACKTRACK.

BACKTRACK aims to provide something for everyone within its pages. Balance and objectivity will be the over-riding philosophy and, overall, we try to provide material which does not favour any one specific system whether it be defined by pre-group company, post-grouping allegiance or BR Region. Most importantly, we seek accuracy, scholarship and readability with an emphasis on encouraging new and different ways of looking at things.

Rail transport was and is as much about people as machines and we shall always try to inject a human element into the journal and encourage writers to take a broader view than mere counting of class totals, enumeration of fleet lists and many other familiar themes known to us all. There will always be some space for such matters but the magazine's founders set out to create something of a 'thinking person's journal' within its pages. Railways had a profound influence in setting the style and pattern of much that we take for granted in the modern era, over and above the mere technology of the vehicles, and it is hoped that potential contributors may find extra inspiration in this approach.

BACKTRACK rarely ventures into the well-ploughed field of current railway preservation save where relevant in the historic context. This apart, however, we shall neither encourage nor discourage particular subjects and potential writers should concentrate on whichever topic they prefer — locomotives, rolling stock, stations, particular companies etc. Contributors may also feel free to let their ideas run pretty well unfettered if they so choose! We shall always pay close attention to anything which is offered.

In general, articles will be more likely to be selected for publication if they address areas not so far publicised in other journals. They should be well-researched, authoritative and preferably accompanied by high-quality illustrations.

PREFERRED STYLE AND FORMAT

Main feature articles should be of some 3-5,000 words, submitted electronically or in typescript, single-sided and double-spaced on A4 size paper. Shorter articles (500-3,000 words) are also welcome to help balance the content. Illustrations should be provided on a basis of about one per 500 words of text (preferably more to allow flexibility of choice). Maps, drawings, etc. should also be submitted if relevant, ideally of reproduction quality.

If an article is only rendered unusable by virtue of excessive length and/or sub-standard pictures or drawings, we may elect to shorten the text, substitute different pictures or have artwork redrawn. We can also accept articles without supporting pictures provided it is understood that if we cannot locate illustrations, the article will not be published. In all such cases authors will be advised in advance.

We can supply a copy of our preferred forms of abbreviation and other relevant style points on request.

PRELIMINARY APPROACHES

In many cases potential authors may wish to write in advance to enquire about the suitability of a possible article, or even submit a short extract and sample pictures from a proposed longer piece. Both these approaches are encouraged and can often save much wasted time.

POTENTIAL PHOTOGRAPHERS

BLACK & WHITE

Under this heading, there is no real shortage of 1950s and 1960s material and we are not actively seeking **random** pictures from this period. In consequence, black & white photographs (unless, of course, submitted in conjunction with a feature article) are unlikely to be accepted unless of exceptional quality and of early date (usually pre-BR). We would, however, be very interested in receiving well-integrated black & white **photo-features** of historical interest from any period, provided that the quality is high.

COLOUR

BACKTRACK has gained much of its reputation through the high quality of its colour illustrations and we are always on the lookout for good high-quality historical colour material on any subject, whether related to an article or not. All things being equal, pictures from the pre-1965 period are more likely to be of interest, but anything more than ten years old is eligible for consideration.

We can use photographic prints and transparencies of any size. Illustrations sent as scans should be as CMYK scans at high resolution (300dpi) with a minimum width dimension of 216mm and saved in either .jpeg or .tiff format. We are happy to examine any material. In the case of rare early colour pictures (eg pre-war), historical interest will usually take precedence over technical quality.

PAYMENT AND COPYRIGHT

PAYMENT

BACKTRACK always pays for material used, our rates being fully comparable with other similar publications. Payment is normally accompanied by a complimentary copy of the issue in which the material appears and we try to settle with our contributors within a few days of publication. An additional payment for illustrations used in an article is usually included in the fee and it is the responsibility of the contributor to pass these payments on to those to whom they may be due. There are a few regular photo sources with whom we settle direct and where this has been done we will advise authors accordingly.

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FINALLY, PLEASE NOTE:

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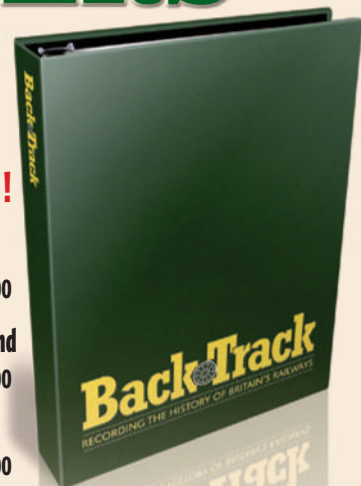
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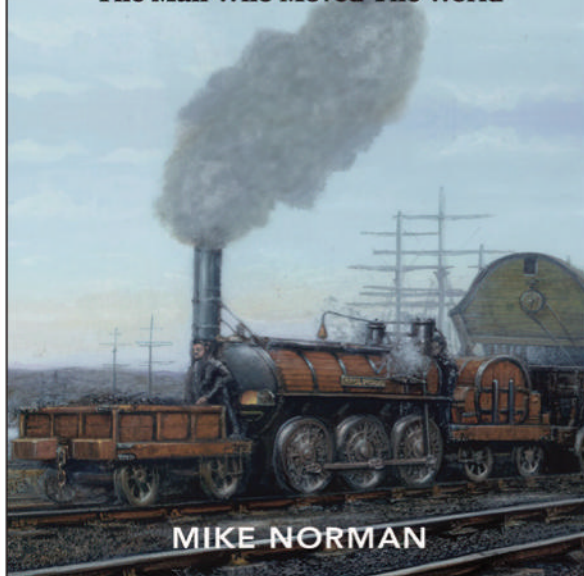
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CALLINGTON IN THE SHADE

The roof of Callington station affords some shade on 7th August 1962. This Cornish terminus lay at the end of a branch from across the border in Devon at Bere Alston, on the Southern main line to Plymouth. It had an unusual history, though, having been the upper end of the East Cornwall Mineral Railway opened in 1872 to link Callington and the navigable River Tamar at Calstock, originally to a gauge of 3ft 6in. Taken over by the Plymouth, Devonport & South Western Junction Railway in 1891, it was converted to standard gauge and extended to a main line connection at Bere Alston in 1908. This leisurely scene finds both an LMS Ivatt Class 2 2-6-2T at rest from shunting and a group of workmen at rest from shovelling. In the left background is Callington's little engine shed, a sub-depot of Plymouth Friary. The branch was closed from Callington to Gunnislake in November 1966, but remains open from the latter to Plymouth.

(Ray Oakley/Colour-Rail.com 102883)

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